

**NATIONAL WEATHER SERVICE INSTRUCTION 10-922
FEBRUARY 8, 2005**

**Operations and Services
Hydrologic Services Program, NWSPD 10-9**

WEATHER FORECAST OFFICE HYDROLOGIC PRODUCTS SPECIFICATION

NOTICE: This publication is available at: <http://www.nws.noaa.gov/directives/>

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SUMMARY OF REVISIONS: This directive supersedes NWS Instruction 10-922, dated February 9, 2004. The effective date provided above is February 8, 2005, but the changes for each product covered in this directive will be implemented in phases. Procedures in the February 9, 2004 version of this directive will remain in effect for a given product until the implementation date is reached for the new product format as described below:

- ▶ Sections 1 and 2 and 11 through 17 become effective on September 8, 2004.
- ▶ Sections 4 (flash flood warnings) and 5 (flash flood statements) will be implemented in two phases. Segmentation will be implemented for flash flood statements issued by all offices starting on November 3, 2004. After that date, selected offices will begin providing Valid Time Event Code (VTEC) in flash flood warnings and statements using the product class code for “*experimental VTEC in operational product*” as described in [Service Change Notice 04-40](#). The operational implementation date for VTEC is February 8, 2005.
- ▶ The new format with VTEC and segmentation for products covered in Section 3 (flood watch), Section 6 (flood warning for forecast points), Section 7 (flood statement - follow up to flood warning for forecast points), Section 8 (areal flood warning), Section 9 (flood statement - follow up to areal flood warning) and Section 10 (flood statement - advisories) will be implemented at two separate times. At selected NWS offices, an Operational Test and Evaluation (OT&E) will be conducted starting on August 30, 2004 as described in [Service Change Notice 04-45](#). For the remaining NWS offices, Sections 3 and 6 through 10 become effective with implementation of VTEC, which will be completed at all offices by the VTEC operational implementation date of February 8, 2005.

Up-to-date information on the status of VTEC implementation is available at <http://www.nws.noaa.gov/os/vtec/>

The following revisions were made to this instruction:

- 1) Provided specifications for incorporating Valid Time Event Code (VTEC) into multi-segment flood watch, flood warning, flash flood statement, and flood statement products.

- 2) Provided specifications for incorporating VTEC into flash flood warnings.
- 3) Specified a bullet format for flood watches, flood warnings, and flood statements.
- 4) Specified a bullet format to use when providing point-specific forecast information in flood watches, flash flood warnings, and flash flood statements.
- 5) Specified product generation software applications for issuance of flood watches, flash flood warnings and statements, flood warnings for forecast points, areal flood warnings, flood statements - follow up to flood warnings for forecast points, flood statements - follow up to areal flood warnings, and flood statements - advisories.
- 6) Required inclusion of a standardized headline in each segment of a flood watch, areal flood warning, flood statement - follow up to areal flood warning, and flood statement - advisories.
- 7) Allowed flood warning extensions in time to be handled by flood statements (with VTEC significance code W for warning in the FLS) instead of new flood warnings.
- 8) Incorporated text describing the relationship between forecast confidence and the appropriate "Ready, Set, Go" product (outlook, watch, warning).
- 9) Changed flood watch and hydrologic outlook time frames to allow for some overlap and place more emphasis on forecaster confidence in determining which product to issue.
- 10) Reverted to use of the wording "flash flood watch" in the text of flood watches instead of "flood watch for flash flooding" when the threat involves potential for flash flooding.
- 11) Allowed the first, third, and fourth bullets of flash flood warnings to be longer than six lines.
- 12) Added latitude/longitude requirement to flash flood statements.
- 13) Made the content requirements for RRx product headers less restrictive.
- 14) Allowed the HYD product to be issued less frequently than daily.
- 15) Removed requirement for HYx products to be encoded in SHEF.
- 16) Added the HCM as a WFO product.

Signed

August 24, 2004

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Date

Weather Forecast Office Hydrologic Products Specification

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1. Introduction. This directive describes hydrologic products issued by National Oceanic and Atmospheric Administration National Weather Service (NWS) weather forecast offices (WFO), guidelines for these products, detailed content descriptions as needed, and a generic format for each product type. Examples of products described in this directive are provided in NWS Instruction (NWSI) 10-923, *Weather Forecast Office Hydrologic Product Examples*.

1.1 NWS-Wide Product Standards. All WFO hydrologic products issued through NWS-supported dissemination systems follow certain identification and dissemination standards. Basic standards for text products, including those for World Meteorological Organization (WMO) headers, AWIPS identifiers, universal geographic codes (UGC), mass news dissemination (MND) header blocks, and product content are contained in NWSI 10-1701, *Text Product Formats and Codes*. Specific standards for UGCs are contained in NWSI 10-1702, *Universal Geographic Code (UGC)*. Specific standards for valid time event code (VTEC) are contained in NWSI 10-1703, *Valid Time Event Code (VTEC)*.

1.2 Multi-tiered, “Ready, Set, Go” Concept. NWS products follow the three-tiered, “Ready, Set, Go” concept to convey the severity and timing of a forecast hazard, and describe a level of forecaster confidence. For event-based hydrologic products issued by WFOs, the multi-tiered concept is described as follows:

- a. The hydrologic outlook (“Ready”) is used to indicate that a hazardous flooding event **may develop**. It is intended to provide information to those who need considerable lead time to prepare for an event.

- b. The flood watch (“Set”) is used when the expectation of a flood event **has increased, but its occurrence, location, and/or timing is still uncertain**. It is intended to provide enough lead time so those who need to set their mitigation plans in motion can do so.
- c. Flash flood warnings, flood warnings, and various advisories under the flood statement identifier (“Go”) are issued without regard to time frame, whenever an event **is occurring, imminent, or has a very high probability of occurrence**.

WFOs should strive to issue products in the outlook, watch, warning/advisory sequence as confidence increases of a flood event’s occurrence. The specific combinations of lead time and forecaster confidence appropriate for a given product may be specified in supplements by the NWS regions.

1.3 Counties, Boroughs, and Parishes. Wherever text or a generic product format refers to counties, the term “county” is also intended to represent the terms ”borough,” “parish,” and “independent cities,” all of which exist in lieu of counties in some states. Not all geographic areas can be specified as a county or borough, so the phrase “INCLUDING THE FOLLOWING AREAS” may be used instead of “INCLUDING THE FOLLOWING COUNTIES” if necessary.

2. Hydrologic Outlook (ESF). There are two types of hydrologic outlooks: (1) products describing the possibility of flooding on a near-term forecast horizon, typically more than 24 hours from the event, and (2) products providing long-term forecast information such as water supply forecasts, updates on drought conditions, and probabilistic analyses.

2.1 Mission Connection. Hydrologic outlooks help the NWS meet its mission by providing long lead time information on the potential for flooding or other notable hydrologic activity. This product gives customers and partners lead time to consider response options, execute mitigation activities, and plan reservoir operations, thus helping to protect life and property and enhance the national economy.

2.2 Issuance Guidelines.

2.2.1 Creation Software. Use the river product formatter (RiverPro) in the WFO hydrologic forecast system (WHFS), a text editor, or other applications as appropriate.

2.2.2 Issuance Criteria. A hydrologic outlook identifying the possibility of a flood event will be issued for the WFO’s hydrologic service area (HSA - see NWSI 10-903, *Geographic Areas of Responsibility*) and should be issued when one of the following criteria is met:

- a. A product needs to be issued to convey the possibility of flooding, with possible occurrence typically 24 hours or more into the future, but as low as 12 hours in some cases when near-term certainty is still low, or

- b. A hydrologic outlook was previously issued indicating the possibility of flooding, but none materialized. In this case the new product issued under the ESF identifier would indicate there is no longer a possibility of flooding.

Hydrologic outlooks providing long-term forecast information will be issued for a WFO's HSA on an as-needed basis to provide long-term forecast information such as seasonal water supply forecasts, drought information, and probabilistic analyses.

2.2.3 Issuance Time. Hydrologic outlooks describing the possibility of a flood event are non-scheduled, event-driven products. Hydrologic outlooks providing long-term forecast information are issued on schedules coordinated with regional headquarters and local customers and partners.

2.2.4 Valid Time. A hydrologic outlook will be valid until a time/date specified in the product or until it is cancelled or updated by another hydrologic outlook.

2.2.5 Product Expiration Time. The product expiration time (at the end of the UGC line, in Coordinated Universal Time, or UTC) varies with the time horizon covered in the product. For hydrologic outlooks describing the possibility of a flood event, the product expiration time may be 12 to 24 hours. For hydrologic outlooks providing long-term forecast information, the product expiration time may be as much as 30 days.

2.3 Technical Description.

2.3.1 UGC Type. County codes should be used.

2.3.2 MND Product Type Line. Use: "HYDROLOGIC OUTLOOK."

2.3.3 Content. Hydrologic outlooks are non-segmented, non-bulleted products written in a variety of formats tailored to their target audience. For hydrologic outlooks describing the possibility of a flood event, the following should be included:

- a. Headline defining the type of flooding being addressed (e.g., flash flooding, main stem river flooding, snow melt flooding),
- b. Area covered,
- c. Possible timing of the event,
- d. Relevant factors (e.g., synoptic conditions, quantitative precipitation forecasts (QPF), or soil conditions),
- e. Definition of an outlook (tailored to the specific situation).
- f. A closing statement indicating when additional information will be provided.

For hydrologic outlooks providing long-term forecast information, the following should be included:

- a. Headline defining the type of water supply, drought, or extended-range streamflow forecast information being provided and
- b. Clearly labeled forecast information presented in text and/or tabular format.

2.3.4 **Format.** The generic format is as follows:

```

FGA1A2ii cccc ddhhmm (BBB) (WMO heading)
ESFxxx (AWIPS identifier)
stC001-005>015-ddhhmm- (UGC Type: county)

HYDROLOGIC OUTLOOK (MND Product Type Line)
NATIONAL WEATHER SERVICE <WFO location> (Issuing Office)
hhmm am/pm time_zone mon dd yyyy (Issuance time/date)

(optional) <...Headline...>

(optional) <Narrative forecast information>

&& (optional - if narrative info needs to be separated from tabular info)

(optional) <tabular observed, forecast, and/or probabilistic information>

$$

<(optional) forecaster name/number>
    
```

Figure 1. Generic format for Hydrologic Outlook (ESF) product.

2.4 **Updates, Amendments, and Corrections.** Provide updates by issuing a new product. Amendments are not applicable to this product. Follow standard NWS practices for corrections.

3. Flood Watch (FFA). Flood watches inform the public of the possibility of flooding – typically within a 6 to 48 hour time frame before the event. Flood watches may cover states, counties, portions of counties, and portions of states, as well as rivers, forecast points, or portions of rivers (e.g., a river reach with one or more forecast points).

3.1 **Mission Connection.** Flood watches help the NWS meet its mission by providing advance notice and up-to-date information on the possibility of flooding. This allows customers and partners to begin monitoring hydrometeorological conditions more closely and elevate flood mitigation resources to a higher state of readiness, thus helping to protect life and property.

3.2 **Issuance Guidelines.**

3.2.1 **Creation Software.** Flood watches will be created with the Watch/Warning/Advisory (WWA) or RiverPro applications.

3.2.2 Issuance Criteria. Flood watches will be issued for a WFO's county warning area (CWA - see NWS Manual 10-507, *Public Geographic Areas of Responsibility*), with one exception - specific forecast points in a WFO's HSA which are outside of its CWA may be covered. Flood watches will be issued when one or more of the following conditions are met:

- a. The possibility exists for meteorological, soil, and/or hydrologic conditions to lead to flooding within a 48-hour period; or
- b. The possibility exists for meteorological, soil, and/or hydrologic conditions to lead to flooding more than 48 hours into the future and the forecaster determines that the flood watch is the best way to convey this possibility; or
- c. A dam or levee may fail and threaten lives or property, but the threat is not deemed to be imminent, or
- d. The effective time of a pre-existing watch changes; and/or
- e. The geographical area covered by a pre-existing flood watch increases; and/or
- f. An update to a pre-existing flood watch is required; and/or
- g. A cancellation of all or part of a pre-existing flood watch is required; and/or
- h. The expiration of a pre-existing flood watch is to be announced (optional - if required by regional or local office policies).

3.2.3 Issuance Time. Flood watches are non-scheduled, event-driven products.

3.2.4 Valid Time. A flood watch will be valid until the time when the potential for flooding should end, as indicated in the headline, or until the product is cancelled or has expired.

3.2.5 Product Expiration Time. The product expiration time (at the end of the UGC line, in UTC) is generally set to be 6 to 8 hours after product issuance, but may be upwards of 12 to 24 hours for longer-fused potential flood situations. This time should be set to indicate when the next update will be issued, or, when approaching the end of the watch period, match the product valid time contained in the headline. When announcing expiration or cancellation of a flood watch, the product expiration time is not more than 1 hour after the watch expiration or cancellation time.

3.3 Technical Description.

3.3.1 UGC Type. Zone codes should be used.

3.3.2 MND Broadcast Instruction Line. Use: "URGENT - IMMEDIATE BROADCAST REQUESTED" for initial product issuances as well as for extensions in time and/or expansions

in area. Note: “BULLETIN” may be used in exceptional situations such as potential dam failures. See NWS Instruction 10-1701 for criteria on use of the terms “Urgent” and “Bulletin.”

3.3.3 MND Product Type Line. Use: “FLOOD WATCH.”

3.3.4 Content. The flood watch product uses a segmented, bullet format (bullets are not used in cancellations/expirations). An optional general overview/synopsis section may be provided at the top of the product. The required segmented watch information section begins with the first UGC line followed immediately by a VTEC string.

3.3.4.1 General Overview/Synopsis Section. This optional section contains at least one of the following items:

- a. General Overview Headline - One or more headlines summarizing the flood threat, affected area, and expected time of development. Each overview headline starts and ends with three periods “...” (ellipses).
- b. General Synopsis - a brief, non-technical description of the developing potential flood situation, including associated hydrometeorological factors when appropriate. This synopsis is free format and may consist of several paragraphs, but the first line of the first paragraph will always be preceded by a period “.”.

3.3.4.2 Segmented Watch Information Section. Information needed in a given flood watch product will be divided into one or more segments. If multiple segments are needed, they will be provided in the following order:

- a. Corrections (COR)
- b. Cancellations (CAN)
- c. Expirations (EXP)
- d. New issuances (NEW)
- e. Expansions in area (EXA)
- f. Extensions in time (EXT)
- g. Extensions in both time and area (EXB)
- h. Continuations (CON)

Segments covering new issuances (NEW), extensions in time (EXT), expansions in area (EXA), extensions in both area and time (EXB), and continuations (CON) will include the following:

- a. UGC line, primary VTEC string, hydrologic VTEC string, zones/cities listing, and date/time stamp as shown in the generic example below. Regardless of whether point-specific forecast information is included or not, only immediate cause (ic) is entered in the hydrologic VTEC string - zeros are entered for the flood severity (s) and the start, crest, and end times; and OO (double capital “O”) is entered for flood record (fr).
- b. Headline briefly summarizing the segment content. Some examples are:

- (1) ...FLOOD WATCH IN EFFECT UNTIL TOMORROW MORNING...
 - (2) ...FLASH FLOOD WATCH IS CANCELLED...
- c. Action lead-in phrase such as “THE NATIONAL WEATHER SERVICE IN <WFO location> HAS ISSUED A” (for NEW, EXT, EXA, or EXB), or “THE <FLOOD WATCH or FLASH FLOOD WATCH> CONTINUES FOR” (for CON), followed by three to four bullets delimited by asterisks (*), with the following information (bullets may be more than six lines):
- (1) First bullet - FLOOD WATCH or FLASH FLOOD WATCH, followed by FOR, followed by a description of the geographic area covered. For CON segments, only provide the geographic area in this bullet.
 - (2) Second bullet - phrase integrating the event beginning (when appropriate) and event ending times (see Figure 2 for details).
 - (3) Third bullet - discussion of the watch basis (e.g., synoptic conditions, soil conditions, river conditions, and quantitative precipitation forecasts).
 - (4) Fourth bullet (optional) - discussion of potential impacts (e.g., areas under flood threat).
- Basin- or point-specific information may be integrated into these bullets.
- d. Statement defining the meaning of a watch, including the sentence “A flood watch (or flash flood watch) means that flooding is possible but not imminent in the watch area.”
 - e. Call-to-action statement (optional).
 - f. Optional tabular hydrologic observations and/or point-specific forecasts, with a double ampersand delimiter separating each different format for data presentation.

Segments announcing cancellation (CAN) or expiration (EXP) of a flood watch will include the following:

- a. UGC line, primary VTEC string, hydrologic VTEC string, zones listing, cities listing (optional), and date/time stamp as shown in Figure 2. In the hydrologic VTEC string, only immediate cause (ic) is entered.
- b. Headline summarizing content of the segment.
- c. Sentence announcing cancellation or expiration of the product.
- d. Brief post-event synopsis and summary of hydrologic activity.

3.3.5 Format. For an areal flood watch, follow the generic format shown below in Figure 2:

WGA₁A₂ii cccc ddhhmm (BBB)
FFAxxx

URGENT - IMMEDIATE BROADCAST REQUESTED ¹
FLOOD WATCH
NATIONAL WEATHER SERVICE <city, state>
hhmm am/pm time_zone day mon dd yyyy

<(optional) ...General overview headline...>

<(optional) .General synopsis of potential flood situation>

<(optional) free format text>

(Include one or more of the following segments in the indicated order:)

For corrections:

stZ001-005>015-ddhhmm-	<i>(UGC-Z & expiration time)</i>
/k. COR .cccc.pp ² . A .####.yymmddThhnnZ _B -yymmddThhnnZ _E /	<i>(Primary VTEC string)</i>
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/	<i>(Hydrologic VTEC string)</i>
<zone #1>-<zone #2>-<zone #n>-	<i>(Zones listing)</i>
INCLUDING <THE CITIES OF> location...location	<i>(Optional - city/location)</i>
hhmm am/pm time_zone day mon dd yyyy	

<Appropriate text for cancellation, expiration, issuance, expansion, extension, expansion/extension, or continuation of watch (see formats below)>

\$\$

or / and (for cancellations):

stZ001-005>015-ddhhmm-
/k.**CAN**.cccc.pp ².**A**.####.yymmddThhnnZ_B-yymmddThhnnZ_E/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<zone #1>-<zone #2>-<zone #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...<FLOOD or FLASH FLOOD> WATCH IS CANCELLED...

THE <FLOOD or FLASH FLOOD> WATCH FOR <geographic area> ³ HAS BEEN CANCELLED.
<Brief post-synopsis/summary of hydrometeorological activity>

\$\$

or / and (for expirations):

stZ001-005>015-ddhhmm-
/k.**EXP**.cccc.pp ².**A**.####.yymmddThhnnZ_B-yymmddThhnnZ_E/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<zone #1>-<zone #2>-<zone #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...<FLOOD or FLASH FLOOD> WATCH IS NO LONGER IN EFFECT...

THE <FLOOD or FLASH FLOOD> WATCH FOR <geographic area> ³ HAS EXPIRED.
 <Brief post-synopsis/summary of hydrometeorological activity>

\$\$

or / and (for new issuances):

stZ001-005>015-ddhhmm-
 /k.**NEW**.cccc.pp ².**A**.####.yymmddThhnnZ_B-yymmddThhnnZ_E/
 /0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
 <zone #1>-<zone #2>-<zone #n>-
 INCLUDING <THE CITIES OF> location...location
 hhmm am/pm time_zone day mon dd yyyy

...<FLOOD or FLASH FLOOD> WATCH IN EFFECT <FROM <time/day phrase ⁴>
 TO <time/day phrase>> or <UNTIL <time/day phrase>>...

THE NATIONAL WEATHER SERVICE IN <WFO location> HAS ISSUED A

- * <FLOOD or FLASH FLOOD> WATCH FOR <geographic area> ³
 - * <FROM <time/day phrase ⁴> TO <time/day phrase>> or <UNTIL <time/day phrase>>
 - * <hydrometeorological basis for the watch>
 - * (optional) <potential impacts>
- <statement defining meaning of a watch>
- <(optional) call-to-action statement>

\$\$

or / and (for expansions in area):

stZ001-005>015-ddhhmm-
 /k.**EXA**.cccc.pp ².**A**.####.yymmddThhnnZ_B-yymmddThhnnZ_E/
 /0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
 <zone #1>-<zone #2>-<zone #n>-
 INCLUDING <THE CITIES OF> location...location
 hhmm am/pm time_zone day mon dd yyyy

...<FLOOD or FLASH FLOOD> WATCH IN EFFECT <FROM <time/day phrase ⁴> TO
 <time/day phrase>> or <UNTIL <time/day phrase>>...

THE NATIONAL WEATHER SERVICE IN <WFO location> HAS EXPANDED THE

- * <FLOOD or FLASH FLOOD> WATCH TO INCLUDE <geographic area> ³
 - * <FROM <time/day phrase ⁴> TO <time/day phrase>> or <UNTIL <time/day phrase>>
 - * <hydrometeorological basis for watch expansion>
 - * (optional) <potential impacts>
- <statement defining meaning of a watch>
- <(optional) call-to-action statement>

\$\$

or / and (for extensions in time):

```
stZ001-005>015-ddhhmm-
/k.EXT.cccc.pp 2.A.####.yymmddThhnnZB-yymmddThhnnZE/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<zone #1>-<zone #2>-<zone #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...<FLOOD or FLASH FLOOD> WATCH EXTENDED <FROM <time/day phrase 4> TO
<time/day phrase>> or <UNTIL <time/day phrase>>...

THE NATIONAL WEATHER SERVICE IN <WFO location> HAS EXTENDED THE

* <FLOOD or FLASH FLOOD> WATCH FOR <geographic area> 3
* <FROM <time/day phrase 4> TO <time/day phrase>> or <UNTIL <time/day phrase>>
* <hydrometeorological basis for extending the watch>
* (optional) <potential impacts>

<statement defining meaning of a watch>

<(optional) call-to-action statement>

$$
```

or / and (for both expansions in area and extensions in time)⁵:

```
stZ001-005>015-ddhhmm-
/k.EXB.cccc.pp 2.A.####.yymmddThhnnZB-yymmddThhnnZE/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<zone #1>-<zone #2>-<zone #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...<FLOOD or FLASH FLOOD> WATCH IN EFFECT <FROM <time/day phrase 4> TO
<time/day phrase>> or <UNTIL <time/day phrase>>...

THE NATIONAL WEATHER SERVICE IN <WFO location> HAS EXPANDED THE

* <FLOOD or FLASH FLOOD> WATCH TO INCLUDE <geographic area> 3
* <FROM <time/day phrase 4> TO <time/day phrase>> or <UNTIL <time/day phrase>>
* <hydrometeorological basis>
* (optional) <potential impacts>

<statement defining meaning of a watch>

<(optional) call-to-action statement>

$$
```

```

    or / and (for continuations):
stZ001-005>015-ddhmm-
/k.CON.cccc.pp 2.A.####.yyymmddThhnnZB-yyymmddThhnnZE/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<zone #1>-<zone #2>-<zone #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...<FLOOD or FLASH FLOOD> WATCH REMAINS IN EFFECT <FROM <time/day phrase 4>
TO <time/day phrase>> or <UNTIL <time/day phrase>>...

THE <FLOOD or FLASH FLOOD> WATCH CONTINUES FOR

* <geographic area> 3
* <FROM <time/day phrase 4> TO <time/day phrase>> or <UNTIL <time/day phrase>>
* <current hydrometeorological situation>
* (optional) <potential impacts>
<statement defining meaning of a watch>
<(optional) call-to-action statement>
$$

<(optional) Name/Initials/Forecaster ID>
_____

Note (1): The MND Broadcast Instruction Line is only used for initial product issuances (i.e., NEW) and expansions/extensions (i.e., EXA, EXT, or EXB), or for correction products (COR) for these four issuance types. It is not included in follow-ups for a previously issued product (i.e., those with CAN, EXP, and/or CON segments).
Note (2): for Phenomena Code pp: FF is entered if product is a flash flood watch, FL is entered if product is a flood watch (for longer-fused flooding).
Note (3): The variable <geographic area> may be an area (e.g., SOUTHEAST KANSAS) or a river/stream name.
Note (4): The variable <time/day phrase> is a place holder for any of the standard headline time/day phrases used for NWS long duration watches (e.g., THIS EVENING, TUESDAY AFTERNOON).
Note (5): When a watch is being extended in both area and time, two segments are used: an EXT segment covers the previously covered area and an EXB segment covers the new area (NWSI 10-1703, sec. 2.2.2, EXB para.).

```

Figure 2. Generic format for an areal flood watch (FFA).

Follow the generic format shown below in Figure 3 for a flood watch which includes point-specific hydrologic forecast information.

```

WGA1A2ii cccc ddhmm (BBB)
FFAxxx

URGENT - IMMEDIATE BROADCAST REQUESTED 1 (Omit for CAN, EXP, and CON segments)
FLOOD WATCH
NATIONAL WEATHER SERVICE <city, state>
hhmm am/pm time_zone day mon dd yyyy

<(optional) ...General overview headline...>
<(optional) .General synopsis of potential flood situation>

```

```

stZ001-005>015-ddhhmm-
/k.NEW.cccc.pp2.A.####.yymmddThhnnZB-yymmddThhnnZE/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<zone #1>-<zone #2>-<zone #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...<FLOOD or FLASH FLOOD> WATCH IN EFFECT <FROM <time/day phrase4> TO
<time/day phrase>> or <UNTIL <time/day phrase>>...

THE NATIONAL WEATHER SERVICE IN <WFO location> HAS ISSUED A

* <FLOOD or FLASH FLOOD> WATCH FOR <geographic area>3
* <FROM <time/day phrase4> TO <time/day phrase>> or <UNTIL <time/day phrase>>
* <hydrometeorological basis for the flood watch>
* (optional) <potential impacts>

<statement defining meaning of a watch>

<(optional) call-to-action statement>

&&

THE FOLLOWING ARE RIVER FORECASTS FOR SELECTED LOCATIONS IN THE WATCH
AREA <(optional) BASED ON CURRENTLY AVAILABLE RAINFALL FORECASTS RANGING
FROM <QPF lower range> TO <QPF upper range> INCHES OVER THE <river/basin
name(s)>>...

<(optional) UGC line>

FOR THE <river/stream name> <proximity term - e.g., AT> <location>...
* AT <time> THE <STAGE / FLOW> WAS...<stage/flow>5
* <flood category> FLOODING IS POSSIBLE (if categories are available)
* <other stage/flow type>6 <STAGE / FLOW> IS... <stage/flow> (optional)
* FLOOD <STAGE / FLOW> IS... <flood stage/flow>
* FORECAST...FLOOD <STAGE / FLOW> MAY BE REACHED AT <time> <day>. <One
or more optional sentences with additional forecast information such as
possible crest/time and time for fall below flood stage/flow.>
* <description of impacts at given stage(s)/flow(s)> (optional)

(If there are additional points, repeat using this format, without separating with another &&)

&& TABULAR FORECAST INFORMATION (optional) (req'd if tabular values are provided below)

<tabular forecast values> (optional)

$$

<Name/Initials/Forecaster ID> (optional)
-----

Note (1): The MND Broadcast Instruction Line is only used for new product issuances (NEW) and expansions/
extensions (EXA, EXT, or EXB), or for corrections (COR) for these four issuance types. It is not included in
follow-up products for a previously issued flood watch (i.e., those with CAN, EXP, and/or CON segments).
Note (2): Use FF if flash flood watch, FL if flood watch (for longer-fused flooding).
Note (3): The variable <geographic area> may be an area (e.g., SOUTHEAST KANSAS) or a river/stream name.
Note (4): The variable <time/day phrase> is a place holder for any of the standard headline time phrases used for
NWS long duration watches (e.g., THIS EVENING, TUESDAY AFTERNOON).

```

Note (5): “Stage/flow” means either stage and/or discharge values may be used.

Note (6): Examples of “other stage/flow type”: CAUTION STAGE, ALERT STAGE, or MONITOR STAGE.

Figure 3. Generic format for a flood watch which includes point-specific forecast information.

Note that Figure 3 only shows a generic format for segments with VTEC action code NEW. Use the following instructions to determine the format for segments with other action codes:

- a. For the top portion (i.e., from WMO header to optional call-to-action statement); use the same format for that segment action shown in Figure 2.
- b. For the bottom portion (i.e., after a double ampersand [&&]) of each segment, use the same format provided for point-specific forecast information in Figure 3.

3.4 Updates, Amendments, and Corrections. Provide updates to a flood watch by issuing another flood watch as dictated by the above issuance criteria. Amendments are not applicable to this product. Follow standard NWS practices for corrections.

4. Flash Flood Warning (FFW). Flash flood warnings are issued when flooding is imminent. This product will be reserved for those short-term events which require immediate action to protect lives and property, such as dangerous small stream flooding or urban flooding and dam or levee failures. The geographic areas addressed by flash flood warnings may be counties, portions of counties, river/stream basins, or other definable areas (e.g., deserts, valleys). Flash flood warnings may include observations and forecast information for specific points. Flash flood warnings and tornado warnings will not be combined in the same product. Flash flood warnings should not be combined with severe thunderstorm warnings.

4.1 Mission Connection. Flash flood warnings help the NWS to meet its mission by providing advance notification of dangerous, short-fused flood events. This allows customers and partners to take immediate mitigation actions such as evacuation to higher ground, thus helping to protect life and property.

4.2 Issuance Guidelines.

4.2.1 Creation Software. Create flash flood warnings using WarnGen or RiverPro.

4.2.2 Issuance Criteria. A flash flood warning will be issued for a WFO’s CWA when:

- a. Flash flooding is reported; and/or
- b. A dam or levee failure is imminent or occurring; and/or
- c. A sudden failure of a naturally-caused stream obstruction (including debris slide, avalanche, or ice jam) is imminent or occurring, and/or
- d. Precipitation capable of causing flash flooding is indicated by radar, rain gages, and/or satellite; and/or

- e. Local monitoring and prediction tools indicate flash flooding is likely; and/or
- f. Hydrologic models indicate flash flooding for locations on small streams, or
- g. The effective time of a pre-existing warning changes; or
- h. The geographical area covered by a pre-existing flash flood warning increases.

4.2.3 Issuance Time. Flash flood warnings are non-scheduled, event-driven products.

4.2.4 Valid Time. A flash flood warning will be valid until the time when flooding (requiring immediate actions to protect lives and property) is expected to end, as indicated in the headline, or until the product is cancelled. When determining the valid time or considering an appropriate time for warning cancellation, the ending time for the flooding should be the determining factor rather than the end of heavy precipitation.

4.2.5 Product Expiration Time. The product expiration time (at the end of the UGC line, in UTC) is the same as the warning valid time in the headline (local time).

4.3 Technical Description.

4.3.1 UGC Type. Use County codes (Zone for Alaska, Guam, and American Samoa).

4.3.2 MND Broadcast Instruction Line. Use: "BULLETIN - EAS ACTIVATION REQUESTED."

4.3.3 MND Product Type Line. Use: "FLASH FLOOD WARNING."

4.3.4 Content. Flash flood warnings use a bullet format and will include:

- a. UGC line, primary and hydrologic VTEC strings, and date/time stamp as shown in Figure 4. If the product includes forecast values for specific locations, the hydrologic VTEC string is populated with available values for flood severity "s;" immediate cause "ic;" Flood Begin, Flood Crest, and Flood End Date/Time groups; and flood record status "fr" elements. If the product provides information on flash flooding which is not the direct result of heavy precipitation (e.g, a dam failure) and the flood severity is unknown, the flood severity code "s" is set to "U." If the product provides information on flash flooding over an area, the flood severity code is set to "0" (zero) to indicate an areal product; an appropriate code is used for immediate cause; zeros are used in the Flood Begin, Crest, and End Date/Time groups; and the flood record status is set to OO (double capital "O").
- b. The action lead-in phrase "THE NATIONAL WEATHER SERVICE IN <WFO location> HAS ISSUED A", followed by three to four bullets delimited by asterisks (*), with the following information (bullets may be more than six lines):

- (1) First bullet - FLASH FLOOD WARNING FOR, followed by a list of the counties covered with, if needed, appropriate geographic modifiers, e.g., <county> IN NORTH CENTRAL <state>, SOUTHWEST <county> IN <state>, SOUTHWEST <county> in SOUTHEASTERN <state>, or THE MOUNTAINS AND DESERTS OF SOUTHWEST <county> IN SOUTHERN <state>.
- (2) Second bullet - UNTIL, followed by the event ending time.
- (3) Third bullet - AT, followed by a discussion of the warning basis and expected impacts.
- (4) Fourth bullet (optional) - pathcast, i.e., discussion of the forecast path of the flood with specific locations to be affected (e.g., cities, streets, mile markers, and neighborhoods).

Basin- or point-specific information may be integrated into the bullets.

- c. A call-to-action statement following the bullets; and
- d. Latitude/longitude polygon coordinates defining the warning area.

If a flash flood warning provides hydrologic observations and/or forecasts for specific locations, the product will also include the following as shown in Figure 5:

- a. A double ampersand (&&) delimiter to indicate a different data type will follow after the latitude/longitude polygon coordinates.
- b. Bulleted observation and forecast information.
- c. Optional tabular hydrologic observations and/or site-specific forecasts, with a && delimiter before the table to indicate a different data type will follow.

4.3.5 Format. Follow the generic format shown below in Figure 4:

```

WGA1A2ii cccc ddhhmm (BBB)
FFWxxx
stC001-005>015-ddhhmm-
/k.aaa1.cccc.FF.W.####.yyymmddThhnnZB-yyymmddThhnnZE/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/

BULLETIN - EAS ACTIVATION REQUESTED
FLASH FLOOD WARNING
NATIONAL WEATHER SERVICE <WFO location>
hhmm am/pm time_zone mon dd yyyy

THE NATIONAL WEATHER SERVICE IN <WFO location> HAS ISSUED A
    
```

```
* FLASH FLOOD WARNING FOR 2                (# counties covered will match # counties in UGC line)
<county #1, with appropriate geographic modifier>
<county #2, with appropriate geographic modifier>
.
.
<county #n, with appropriate geographic modifier>

* UNTIL hhmm am/pm time_zone                (expiration time of warning)

* AT hhmm am/pm time_zone <warning basis statement and expected impacts> 2

* <(optional) pathcast 2 - forecast path of flood or sequence of locations
  to be affected>

<call-to-action statement>

LAT...LON  nnnn nnnn                ← (mandatory list of latitude/longitude points outlining
the forecaster-drawn polygon defining the warning area)

$$

<(optional) forecaster name/number>
-----
```

Note (1): For flash flood warnings, the action code may only be NEW or COR.

Note (2): the length of the first, 3rd, and 4th bullets may be longer than six (6) lines to convey necessary warning area, warning basis, and pathcast information..

Figure 4. Generic format for a flash flood warning issued for a defined area.

For a flash flood warning which includes observations and forecasts for one or more specific points in the warning area, follow the generic format shown below in figure 5:

```
WGA1A2iii cccc ddhhmm (BBB)
FFWxxx
stC001-005>015-ddhhmm-
/k.aaa 1.cccc.FF.W.####.yyymmddThhnnZB-yyymmddThhnnZE/
/s.ic.yymmddThhnnZB.yyymmddThhnnZC.yyymmddThhnnZE.fr/ 2

BULLETIN - EAS ACTIVATION REQUESTED
FLASH FLOOD WARNING
NATIONAL WEATHER SERVICE <city, state>

hhmm am/pm time_zone mon dd yyyy

THE NATIONAL WEATHER SERVICE IN <WFO location> HAS ISSUED A

* FLASH FLOOD WARNING FOR 3                (# counties covered will match # counties in UGC line)
<county #1, with appropriate geographic modifier>
<county #2, with appropriate geographic modifier>
.
.
<county #n, with appropriate geographic modifier>

* UNTIL hhmm am/pm time_zone

* AT hhmm am/pm time_zone <warning basis statement and expected impacts> 3

* <(optional) pathcast 3 - forecast path of flood>
```

```

<call-to-action statement>

LAT...LON  nnnn nnnn          ← (mandatory list of latitude/longitude points outlining
                                the forecaster-drawn polygon defining the warning area)

&& FORECAST(S) FOR SPECIFIC LOCATION(S) IN THE FLASH FLOOD WARNING AREA:

FOR THE <river/stream name> <proximity term - e.g., AT> <location>:
* AT <time> <day> THE <STAGE / FLOW> WAS...<stage/flow> 4
* <flood category> FLOODING IS OCCURRING (optional) AND <flood category>
  FLOODING IS FORECAST 5
* <other stage/flow type> 6 <STAGE / FLOW> IS... <stage/flow> (optional)
* FLOOD <STAGE / FLOW> IS... <flood stage/flow>
* FORECAST...FLOOD <STAGE / FLOW> <WILL BE REACHED or WAS REACHED> AT
  <time> <day>. <One or more optional sentences with additional forecast
  information such as forecast crest/time and time for fall below flood
  stage/flow.>
* <description of impacts at given stage(s)/flow(s)> (optional)

(If there are additional points, repeat using this format, without separating with another &&)

&& TABULAR FORECAST INFORMATION (optional)

<tabular forecast values for river/stream covered above> (optional)

<Name/Initials/Forecaster ID> (optional)
-----

```

Note (1): For flash flood warnings, the action code may only be NEW or COR.

Note (2): the H-VTEC string is populated with all known values (e.g., flood severity, immediate cause, date/time groups) in flash flood warnings which provide observations and forecasts for one or more specific points. Use "U" for the flood severity if it is unknown.

Note (3): the length of the first, 3rd, and 4th bullets may be longer than six (6) lines to convey necessary warning area, warning basis, and pathcast information.

Note (4): "Stage/flow" means either stage and/or discharge values may be used.

Note (5): Include one or both observed/forecast category phrases if applicable and flood categories are available.

Note (6): Examples of "other stage/flow type": CAUTION STAGE, ALERT STAGE, or MONITOR STAGE.

Figure 5. Generic format for a flash flood warning providing observations and/or forecasts for specific locations in the warning area.

4.4 Updates, Amendments, and Corrections. Updates and amendments are not applicable. WFOs will reissue flash flood warnings for significant grammatical, format, or dissemination code errors, or for counties either omitted or erroneously added to a warning. Corrected warnings will have the same time in the MND header as the original warning. WFOs will issue flash flood statements to inform customers of erroneous counties removed from original warnings (either in the FIPS/Zone UGC code or in the body of the warning).

5. Flash Flood Statement (FFS). Flash flood statements provide supplemental information on active flash flood warning products, such as updated observations and impact information.

5.1 Mission Connection. Flash flood statements help the NWS to meet its mission by providing the information customers and partners need to direct mitigation activities towards continuing flash flood threats and/or receding flood situations where waters continue to present a danger to lives and property.

5.2 Issuance Guidelines.

5.2.1 Creation Software. Create flash flood statements using WarnGen or RiverPro.

5.2.2 Issuance Criteria. Flash flood statements will be issued for a WFO's CWA to:

- a. Announce cancellation or expiration of a flash flood warning; and/or
- b. Provide additional information to supplement a continuing flash flood warning.

5.2.3 Issuance Time. Flash flood statements are non-scheduled, event-driven products, issued when necessary according to the above issuance criteria.

5.2.4 Valid Time. A flash flood warning described in a flash flood statement will continue to be valid until it expires or is cancelled or updated by another flash flood statement.

5.2.5 Product Expiration Time. For flash flood statements providing supplemental information on (but not cancelling) a flash flood warning, the product expiration time (at the end of the UGC line) is the same as product expiration time for the referenced flash flood warning. For flash flood statements announcing expiration or cancellation of a flash flood warning, the product expiration time is not more than 15 minutes after the warning expiration or cancellation time.

5.3 Technical Description.

5.3.1 UGC Type. Use County codes (Zone for Alaska, Guam, and American Samoa).

5.3.2 MND Broadcast Instruction Line. Not applicable to the flash flood statement.

5.3.3 MND Product Type Line. Use: "FLASH FLOOD STATEMENT."

5.3.4 Content. The flash flood statement product uses a segmented, non-bulleted format. If multiple actions (e.g., cancellation plus continuation) are needed in a given product, they will be ordered by VTEC action code as follows:

- a. Corrections (COR)
- b. Cancellations (CAN)
- c. Expirations (EXP)
- d. Continuations (CON)

Note: there will be no segments for new issuances (NEW), expansions in area (EXA), extensions in time (EXT), and extensions in both time and area (EXB). All such instances will be handled by issuance of new flash flood warning products.

All segments in flash flood statements will include the following:

- a. UGC line, primary and hydrologic VTEC strings, county/city listing, and date/time stamp as shown in Figure 6. If forecast values for specific locations are to be included, the hydrologic VTEC string is populated with available values for flood severity “s;” immediate cause “ic;” flood start, flood crest, and flood end date/time groups; and flood record status “fr” elements. If the product provides information on flash flooding which is not the direct result of heavy precipitation (e.g, a dam failure) and the flood severity is unknown, the flood severity code “s” is set to “U.” Otherwise, use zero for flood severity to indicate an areal product, an appropriate code for immediate cause; zeros for the start, crest, and end date/time groups; and OO (double capital “O”) for the flood record status.
- b. Headline with indication of whether the flash flood warning continues to be in effect or is being cancelled or allowed to expire, followed by the area covered by the flash flood warning;
- c. Update on current/future hydrometeorological conditions and impacts;
- d. Call-to-action statement.
- e. Latitude/longitude polygon coordinates defining the warning area.

If hydrologic observations and/or forecasts for specific locations are included, use the same format after a double ampersand (&&) as specified for flash flood warnings (see Figure 7 below).

5.3.5 Format. For a flash flood statement providing supplemental information on a flash flood warning issued for a defined area, follow the generic format shown below in Figure 6:

```
WGA1A2ii cccc ddhhmm (BBB)
FFSxxx
```

```
FLASH FLOOD STATEMENT
NATIONAL WEATHER SERVICE <WFO location>
hhmm am/pm lst day mon dd yyyy
```

(Include one or more of the following segments in the indicated order:)

For corrections:

```
stC001-005>015-ddhhmm-
/k.COR.cccc.FF.W1.####.yyymmddThhnnZB-yyymmddThhnnZE/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy
```

```
<Appropriate text for cancellation, expiration, or continuation of warning
(see formats below)>
```

```
$$
```

or / and (for cancellations):

```
stC001-005>015-ddhhmm-
/k.CAN.cccc.FF.W1.####.yymmddThhnnZB-yymmddThhnnZE/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...THE FLASH FLOOD WARNING HAS BEEN CANCELLED FOR <(optional) directional
term> <county #1> <(optional) geographic portion(s)>...<(optional)
directional term> <county #2> <(optional) geographic portion(s)> AND
<(optional) directional term> <county #n> <(optional) IN> <(optional)
geographic portion(s)> <(optional) geographic descriptor> <(optional)
directional term> <(optional) state>...

AT hhmm am/pm time_zone...<basis for warning cancellation>

<call-to-action statement>

LAT...LON  nnnn nnnn

$$
```

or / and (for expirations):

```
stC001-005>015-ddhhmm-
/k.EXP.cccc.FF.W1.####.yymmddThhnnZB-yymmddThhnnZE/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...THE FLASH FLOOD WARNING HAS EXPIRED FOR <(optional) directional term>
<county #1> <(optional) geographic portion(s)>...<(optional) directional
term> <county #2> <(optional) geographic portion(s)> AND <(optional)
directional term> <county #n> <(optional) IN> <(optional) geographic
portion(s)> <(optional) geographic descriptor> <(optional) directional
term> <(optional) state>...

AT hhmm am/pm time_zone...<basis for warning expiration

<call-to-action statement>

LAT...LON  nnnn nnnn

$$
```

or / and (for continuations):

```
stC001-005>015-ddhhmm-
/k.CON.cccc.FF.W1.####.yymmddThhnnZB-yymmddThhnnZE/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...THE FLASH FLOOD WARNING REMAINS IN EFFECT FOR <(optional) directional
term> <county #1> <(optional) geographic portion(s)>... <(optional)
directional term> <county #2> <(optional) geographic portion(s)> AND
<(optional) directional term> <county #n> <(optional) geographic portion(s)>
<(optional) IN> <(optional) geographic descriptor> <(optional) directional
term> <(optional) state> UNTIL <hhmm am/pm time_zone> <day>...
```

```

AT hhmm am/pm time_zone...<updated warning statement and expected impacts>

<call-to-action statement>

LAT...LON  nnnn nnnn

$$

<Name/Initials/Forecaster ID> (optional)
-----

```

Note (1): The significance code for this product is “W” because the flash flood statement provides supplemental information on a previously issued flash flood warning product (see NWSI 10-1703, section 2.2.5).

Figure 6. Generic format for a flash flood statement for a defined area.

For a flash flood statement with forecasts for specific locations, follow the generic format shown below in Figure 7.

```

WGA1A2ii cccc ddhhmm (BBB)
FFSxxx

FLASH FLOOD STATEMENT
NATIONAL WEATHER SERVICE <WFO location>
hhmm am/pm 1st day mon dd yyyy

stC001-005>015-ddhhmm-
/k.CON.cccc.FF.W1.####.yyymmddThhnnZB-yyymmddThhnnZE/
/s.ic.yymmddThhnnZB.yyymmddThhnnZC.yyymmddThhnnZE.fr/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...THE FLASH FLOOD WARNING REMAINS IN EFFECT FOR <(optional) directional
term> <county #1> <(optional) geographic portion(s)>... <(optional)
directional term> <county #2> <(optional) geographic portion(s)> AND
<(optional) directional term> <county #n> <(optional) geographic portion(s)>
<(optional) IN> <(optional) geographic descriptor> <(optional) directional
term> <(optional) state> UNTIL <hhmm am/pm time_zone> <day>...

AT hhmm am/pm time_zone...<updated warning statement and expected impacts>

<call-to-action statement>

LAT...LON  nnnn nnnn

&& FORECAST(S) FOR SPECIFIC LOCATION(S) IN THE FLASH FLOOD WARNING AREA:

FOR THE <river/stream name> <proximity term - e.g., AT> <location>:
* AT <time> <day> THE <STAGE / FLOW> WAS...<stage/flow>2
* <flood category> FLOODING IS OCCURRING AND <flood category> FLOODING
  IS FORECAST3
* <other stage/flow type>4 <STAGE / FLOW> IS... <stage/flow> (optional)
* FLOOD <STAGE / FLOW> IS... <flood stage/flow>
* FORECAST...FLOOD <STAGE / FLOW> <WILL BE REACHED or WAS REACHED> AT
  <time> <day>. <One or more optional sentences with additional forecast
  information or observations such as forecast crest/time and time for fall
  below flood stage/flow.>
* <description of impacts at given stage(s)/flow(s)> (optional)

```

(If there are additional points, repeat using this format, without separating with another &&)

&& TABULAR FORECAST INFORMATION (optional)

<tabular forecast values> (optional)

\$\$

<Name/Initials/Forecaster ID> (optional)

Note (1): The significance code for this product is “W” because the flash flood statement provides supplemental information on a previously issued flash flood warning product (see NWSI 10-1703, section 2.2.5).

Note (2): “Stage/flow” means either stage and/or discharge values may be used.

Note (3): Include one or both observed/forecast category phrases if applicable and flood categories are available.

Note (4): Examples of “other stage/flow type” are: CAUTION STAGE, ALERT STAGE, or MONITOR STAGE.

Figure 7. Generic format for a flash flood statements with forecasts for specific locations.

Note that Figure 7 only shows a generic format for segments with VTEC action code CON. Use the following instructions to determine the format for segments with other action codes:

- a. For the top portion (i.e., from WMO header to latitude/longitude coordinates); use the same format for that segment action shown in Figure 6.
- b. For the bottom portion (i.e., after a double ampersand [&&]) of each segment, use the same format provided for point-specific forecast information in Figure 7.

5.4 Updates, Amendments, and Corrections. Provide updates by issuing a new product. Amendments are not applicable to this product. Follow standard NWS practices for corrections.

6. Flood Warning For Forecast Points (FLW). Flood warnings for forecast points are issued for any high flow, overflow, or inundation threatening lives and property which can be quantified or indexed at specific locations and are not covered by flash flood warning products. Flood warnings for forecast points usually include information on the impacts of expected flooding at locations upstream and/or downstream from covered forecast points.

6.1 Mission Connection. Flood warnings help the NWS to meet its mission by providing advance notice of imminent or occurring flooding. This gives customers and partners time to initiate mitigation actions such as evacuation, removal of goods and belongings, alteration of reservoir releases, and activation of diversion works, thus helping to protect life and property.

6.2 Issuance Guidelines.

6.2.1 Creation Software. RiverPro in the WHFS will be used.

6.2.2 Issuance Criteria. Flood warnings for forecast points will be issued for a WFO’s HSA when:

- a. Flood monitoring and prediction tools and/or RFC guidance indicate flooding is likely; and/or

- b. Reports or observations indicate flooding is occurring; or
- c. The maximum of observed or forecast flooding increases to a higher category (e.g., minor to moderate) than the maximum of observed or forecast flooding indicated in the previously issued flood warning/statement. (Flood categories are defined in NWS Manual 10-950, *Definitions and General Terminology*.) This maximum is simply the greater of either the current observed flooding or the highest forecast flooding indicated at a given product issuance.

When an increase in flood category has occurred or is forecast to occur, a separate flood warning product will be issued for the forecast points involved using the CON action code and a special headline. The event tracking numbers associated with the affected forecast points will remain the same as in the previously issued flood warning/statement. Event tracking numbers in subsequently issued flood statements will also remain the same. Other forecast points which are under a flood warning but not affected by a change in flood category will be covered in a separate flood statement product.

6.2.3 Issuance Time. Flood warnings are non-scheduled, event-driven products.

6.2.4 Valid Time. Flood warnings for forecast points will be valid until the time indicated in the event ending date/time group in the P-VTEC string and/or the second bullet, or until the warning for each forecast point in the product is cancelled in a subsequently issued flood statement. If river/stream characteristics and/or hydrometeorological conditions make it impractical to specify when the event will end, the event ending date/time group and the flood end date/time group are coded with ten zeros (000000T0000Z) and “UNTIL FURTHER NOTICE” is used in the second bullet.

6.2.5 Product Expiration Time. The product expiration time (at the end of the UGC line) is generally set to be 12 to 24 hours after product issuance, but may be as low as 6 hours for more rapidly changing flood situations.

6.3 Technical Description.

6.3.1 UGC Type. County codes should be used (Zone for Alaska).

6.3.2 MND Broadcast Instruction Line. Use either: “BULLETIN - EAS ACTIVATION REQUESTED” or “BULLETIN - IMMEDIATE BROADCAST REQUESTED” depending on the urgency of the hydrologic situation, regional policies, and customer/partner requirements.

6.3.3 MND Product Type Line. Use: “FLOOD WARNING.”

6.3.4 Content. The flood warning product uses a segmented, bullet format. An optional general overview/synopsis section may be provided at the top of the product. The required segmented warning information section begins with the first UGC line followed immediately by a VTEC string.

6.3.4.1 General Overview/Synopsis Section. This usually optional section contains at least one of the following items:

- a. General Overview Headline - One or more headlines summarizing the type of products in effect, the action being taken, and the expected event duration (if known). Each overview headline starts and ends with three periods “...” (ellipses). A list of forecast points may appear below the headlines.
- b. General Synopsis - a brief, non-technical description of the flood situation. A tabular summary of rivers and forecast points covered in the product and/or a discussion of associated hydrometeorological factors may be provided. This synopsis is free format and may consist of several paragraphs, but the first line of the first paragraph will always be preceded by a period “.”.

The general overview headline is required when a flood warning product contains one or more segments announcing an increase in flood category. In such cases, the headline clearly indicates this increase – e.g., “... Flooding forecast to increase in severity on the Green River...”

6.3.4.2 Segmented Warning Information Section. Information in a flood warning product will be divided into one or more segments. Each location covered in the product will have its own segment (segmentation by forecast point). This provides for straightforward application of VTEC action codes (e.g., CAN, CON) in subsequent flood products for each forecast point and maximizes the meaning of values in the date/time groups of the hydrologic VTEC string. Correction segments (COR) will appear first before any NEW segments. NEW segments may be grouped in any desired order (e.g., by county, forecast basin, downstream order). A county UGC may be associated with more than one segment in this product.

Each segment of a flood warning for forecast points will include the following:

- a. UGC line, primary and hydrologic VTEC strings, counties listing (optional), cities listing (optional), and date/time stamp as shown in Figure 8. If the flood severity code “s” in the hydrologic VTEC string is unknown, enter “U”. Use zeros for any unknown date/time group.
- b. Headline summarizing the segment content (optional for NEW issuances).
- c. The action lead-in phrase: “THE NATIONAL WEATHER SERVICE IN <WFO location> HAS ISSUED A.” After this, two bullets delimited by asterisks (*) will contain the following:
 - (1) First bullet - FLOOD WARNING FOR, followed on the next line by the river/stream and location (forecast point) name.
 - (2) Second bullet - FROM/TO or UNTIL information, obtained from the Event (i.e., flood) Beginning and Event Ending Date/Times used in the P-VTEC string. If the flooding has already begun, only the UNTIL

information is provided. If the event ending time cannot be specified, use FURTHER NOTICE in its place. Use general date/time phrases such as TUESDAY AFTERNOON instead of specific date/times.

For products announcing flood category increases, the first bullet is not used. The action lead-in phrase is THE FLOOD WARNING CONTINUES FOR, followed on the next line by the river/stream and location (forecast point) name, followed by the bullet described in (2) above.

- d. Bulleted warning information for the forecast point consisting of the following (bullets may be longer than six lines if necessary):
 - (1) AT followed by the time of observation and the current stage/flow.
 - (2) One or both of the following as applicable (if flood category information is available) - description of category of current flooding, if flooding is already occurring, and description of the category of expected flooding.
 - (3) Flood stage/flow at the forecast point (other stages such as caution stage may also be listed in separate bullets).
 - (4) Forecast information - e.g., time when the river/stream will reach flood stage/flow, forecast crest/peak flow and time/day when expected, time when river/stream will fall below flood stage/flow, and other relevant forecast information.
 - (5) (Optional) Description of the known impacts of flooding at given stages (or flows) within the expected range of forecast values.

Observed and forecast data in tabular format may be presented at the end of each segment, or at the end of the product after the last segment.

6.3.5 Format. The generic format is shown below in figure 8:

```
WGA1A2ii cccc ddhhmm (BBB)
FLWxxx
```

```
BULLETIN - EAS ACTIVATION (or IMMEDIATE BROADCAST) REQUESTED
FLOOD WARNING
NATIONAL WEATHER SERVICE <city, state>
hhmm am/pm time_zone day mon dd yyyy
```

The following overview headline/synopsis section within the brackets is optional:

```
...THE NATIONAL WEATHER SERVICE IN <WFO location> HAS ISSUED A
FLOOD WARNING <(optional) UNTIL <time/day phrase> 1> FOR THE
FOLLOWING <RIVER(S) or STREAM(S)> IN <geographic area>...
```

- or -

```
...<FORECAST or OBSERVED> FLOODING CHANGED FROM <category> TO <category>
SEVERITY <(optional) AND INCREASED IN DURATION> FOR THE FOLLOWING
<RIVER(S) or STREAM(S)> IN <geographic area>...
```

<river/stream> AT <location> (optional:) AFFECTING <county #1>...
 <county #2> AND <county #n> <COUNTY or COUNTIES>
 <river/stream> AT <location> (optional:) AFFECTING <county #1>...
 <county #2> AND <county #n> <COUNTY or COUNTIES>
 .
 .
 <river/stream> AT <location> (optional:) AFFECTING <county #1>...
 <county #2> AND <county #n> <COUNTY or COUNTIES>
 (optional:) AFFECTING THE FOLLOWING COUNTIES IN <state>...<county #1>...
 <county #2> AND <county #n>

.<General hydrometeorological synopsis>

<(optional:) call-to-action>

ADDITIONAL INFORMATION IS AVAILABLE AT <Web site URL>

THE NEXT STATEMENT WILL BE ISSUED <time/day phrase>.

(Include one or more of the following segments in the indicated order²:)

For corrections:

stC001-005>015-ddhmm-
 /k.**COR**.cccc.**FL.W**.####.yymmddThhnnZ_B-yymmddThhnnZ_E/
 /s³.ic.yymmddThhnnZ_B.yymmddThhnnZ_C.yymmddThhnnZ_E.fr/
 (optional) <<county #1>-<county #2>-<county #n>->
 (optional) <INCLUDING <THE CITIES OF> location...location>
 hhmm am/pm time_zone day mon dd yyyy

<Appropriate text for NEW or CON (flood category increase) segments (see formats below)>

\$\$

or / and (for new issuances):

stC001-005>015-ddhmm-
 /k.**NEW**.cccc.**FL.W**.####.yymmddThhnnZ_B-yymmddThhnnZ_E/
 /s³.ic.yymmddThhnnZ_B.yymmddThhnnZ_C.yymmddThhnnZ_E.fr/
 (optional) <<county #1>-<county #2>-<county #n>->
 (optional) <INCLUDING <THE CITIES OF> location...location>
 hhmm am/pm time_zone day mon dd yyyy

<(optional)...Headline...>

THE NATIONAL WEATHER SERVICE IN <WFO location> HAS ISSUED A

- * FLOOD WARNING FOR
 <river/stream name> <proximity term - e.g., AT> <location>
- * <FROM <time/day phrase>¹ TO <<time/day phrase>¹ or UNTIL FURTHER NOTICE>> or <UNTIL <time/day phrase>¹ or FURTHER NOTICE>
- * AT <time>⁴ <day> THE <STAGE / FLOW> WAS...<stage/flow>⁵
- * <flood category> FLOODING IS OCCURRING AND <flood category> FLOODING IS FORECAST⁶
- * <other stage/flow type>⁷ <STAGE / FLOW> IS... <stage/flow> (optional)
- * FLOOD <STAGE / FLOW> IS... <flood stage/flow>
- * FORECAST...FLOOD <STAGE / FLOW> WILL BE REACHED AT <time> <day>⁸. <One or more optional sentences with additional forecast information such as forecast crest/time and time for fall below flood stage/flow. If "further notice" was used in second bullet above, include best estimate of flood duration and briefly explain why duration cannot be specified>
- * <description of impacts at given stage(s)/flow(s)> (optional)

```

&& (optional)
<optional tabular observed/forecast values for segment>

$$

(For each additional forecast point (if any), repeat the above in a separate segment)

    (for flood category increases):
stC001-005>015-ddhhmm-
/k.<CON or EXT>9.cccc.FL.W.####.yymmddThhnnZB-yymmddThhnnZE/
/s3.ic.yymmddThhnnZB.yymmddThhnnZC.yymmddThhnnZE.fr/
(optional) <<county #1>-<county #2>-<county #n>->
(optional) <INCLUDING <THE CITIES OF> location...location>
hhmm am/pm time_zone day mon dd yyyy

...<FORECAST or OBSERVED> FLOODING INCREASED FROM <category> TO <category>
SEVERITY <(optional) AND INCREASED IN DURATION UNTIL <time/day phrase>>...

THE FLOOD WARNING CONTINUES FOR
  <river/stream name> <proximity term - e.g., AT> <location>
* <FROM <time/day phrase>1 TO <<time/day phrase>1 or UNTIL FURTHER
  NOTICE>> or <UNTIL <time/day phrase>1 or FURTHER NOTICE>
* AT <time>4 <day> THE <STAGE / FLOW> WAS...<stage/flow>5
* <flood category> FLOODING IS OCCURRING AND <flood category> FLOODING
  IS FORECAST
* <other stage/flow type>7 <STAGE / FLOW> IS... <stage/flow> (optional)
* FLOOD <STAGE / FLOW> IS... <flood stage/flow>
* FORECAST...FLOOD <STAGE / FLOW> WILL BE REACHED AT <time> <day>8. <One
  or more optional sentences with additional forecast information such as
  forecast crest/time and time for fall below flood stage/flow. If
  "further notice" was used in second bullet above, include best estimate of
  flood duration and briefly explain why duration cannot be specified>
* <description of impacts at given stage(s)/flow(s)> (optional)

&& (optional)
<optional tabular observed/forecast values for segment>

$$

(For each additional forecast point (if any), repeat the above in a separate segment)

```

```

&& TABULAR FORECAST INFORMATION (optional - for entire product)
<tabular observed/forecast values for entire product> (optional)

```

```

<Name/Initials/Forecaster ID> (optional)
-----

```

Note (1): Variable <time/day phrase> is a place holder for time/day phrases used in NWS long duration watches (e.g., MONDAY MORNING, TUESDAY AFTERNOON).

Note (2): Note: cancellations (CAN), expirations (EXP), normal extensions in time (EXT), and normal continuations (CON) will be handled by the flood statement (FLS - see section 7).

Note (3): "U" is entered for Flood Severity code "s" if the forecast flood category is unknown.

Note (4): Where <time> stands alone as a variable, the format is **hhmm am/pm time_zone**.

Note (5): "Stage/flow" means either stage and/or discharge values may be used.

Note (6): Include one or both observed/forecast category phrases if applicable and flood categories are available.

Note (7): Examples of "other stage/flow type": CAUTION STAGE, ALERT STAGE, or MONITOR STAGE.

Note (8): Omit phrase about when flood stage will be reached if it was already reached before product was issued.

Note (9): Use EXT in category increase segments when an extension is involved, otherwise use CON.

Figure 8. Generic format for a flood warning for forecast points.

6.4 Updates, Amendments, and Corrections. Provide updates to a flood warning by issuing a flood statement per instructions in section 7.2.2. Amendments are not applicable to this product. Follow standard NWS practices for corrections.

7. **Flood Statement - Follow-up to Flood Warning For Forecast Points (FLS).** Flood statements contain supplemental information on previously issued flood warnings, such as updated observations and impact information.

7.1 Mission Connection. Flood statements help the NWS to meet its mission by updating information on threatening situations covered in previous flood warnings, thus helping to protect life and property.

7.2 Issuance Guidelines.

7.2.1 Creation Software. The RiverPro software in WHFS will be used.

7.2.2 Issuance Criteria. Flood statements will be issued to follow up flood warnings when:

- a. Information needs to be provided to update or supplement a previously issued flood warning; and/or
- b. The effective time changes in a previously issued flood warning (except if accompanied by a flood category increase - in that case, issue a flood warning); and/or
- c. Cancellation or expiration of a flood warning needs to be announced; and/or
- d. Observed flooding decreases to a lower category (e.g., moderate to minor) than was provided in the most recently issued flood warning/statement and a lower category than was forecast to be occurring at the time for the next product update.

7.2.3 Issuance Time. Flood statements are non-scheduled, event-driven products.

7.2.4 Valid Time. A flood warning for a forecast point being followed up in a flood statement will continue to be valid until the time indicated in event ending date/time group in the P-VTEC string and the second bullet, or until it is cancelled by or omitted from a flood statement. If river/stream characteristics and/or hydrometeorological conditions make it impractical to specify when the event will end, the event ending date/time group and the flood end date/time group are coded with ten zeros (000000T0000Z) and “UNTIL FURTHER NOTICE” is used in the second bullet.

7.2.5 Product Expiration Time. The product expiration time (at the end of the UGC line) is generally set to be 12 to 24 hours after product issuance, but may be as low as 6 hours for more rapidly changing situations. For flood statements announcing expiration or cancellation of a flood warning for forecast points, the product expiration time is not more than 1 hour after the warning expiration or cancellation time.

7.3 Technical Description.

7.3.1 UGC Type. County codes should be used (Zones in Alaska).

7.3.2 MND Broadcast Instruction Line. Not applicable to the flood statement.

7.3.3 MND Product Type Line. Use: “FLOOD STATEMENT.”

7.3.4 Content. The flood statement following up a flood warning for forecast points uses a segmented, bullet format. An optional general overview/synopsis section may be provided at the top of the product. The required segmented warning update information section begins with the first UGC line followed immediately by a VTEC string.

7.3.4.1 General Overview/Synopsis Section. This optional section contains at least one of the following items:

- a. General Overview Headline - One or more headlines summarizing the type of products in effect, the action being taken, and the expected event duration (if known). Each overview headline starts and ends with three periods “...” (ellipses). A list of forecast points may appear below the headlines.
- b. General Synopsis - a brief, non-technical description of the flood situation. A tabular summary of rivers and forecast points covered in the product and/or a discussion of associated hydrometeorological factors may be provided. This synopsis is free format and may consist of several paragraphs, but the first line of the first paragraph will always be preceded by a period “.”.

7.3.4.2 Segmented Flood Statement Information Section. Information will be divided into one or more segments. Each forecast point will have its own segment (segmentation by forecast point). This provides for straightforward application of VTEC action codes (e.g., CAN, CON) in subsequent issuances for each forecast point and maximizes the meaning of values in the date/time group in the hydrologic VTEC string. A county UGC may be associated with more than one segment. If multiple actions (e.g., cancellation plus continuation) apply in a product, the segments should be further ordered by VTEC action code as follows:

- a. Corrections (COR)
- b. Cancellations (CAN)
- c. Expirations (EXP)
- d. Extensions (EXT)
- e. Continuations (CON)

However, the order for individual segments may deviate from this hierarchy to provide information in a way that makes the most sense geographically (e.g., grouped by county, downstream order, forecast basin). Note: in flood statements following up flood warnings for forecast points, there will be no segments for new issuances (NEW), expansions in area (EXA), and extensions in both time and area (EXB). Also note: the COR action code will only be used in flood statements to correct previously issued flood statements - corrections to flood warnings will be handled by flood warnings.

In a flood statement following up a flood warning for forecast points, segments will include:

- a. UGC line, primary and hydrologic VTEC strings, counties listing (optional), cities listing (optional), and date/time stamp as shown in Figure 9. If the flood severity code “s” in the hydrologic VTEC string is unknown, enter “U”. Use zeros for any unknown date/time group.
- b. Headline summarizing content of the segment (optional for CAN, EXP, and CON segments).
- c. Action lead-in phrase such as “THE FLOOD WARNING CONTINUES FOR” (other action lead-in phrases are provided in Figure 9), followed on the next line (indented) by the river/stream name and location (forecast point) name. After the river/stream and location names, the following bulleted warning information, delimited by asterisks (*), will be provided for the forecast point (bullets may be longer than six lines if necessary):
 - (1) For extensions and continuations: FROM/TO or UNTIL information, obtained from the Event Beginning and Event Ending Date/Times used in the P-VTEC string. If the flooding has already begun, only the UNTIL information is provided. If the event ending time cannot be specified, use FURTHER NOTICE in place of the time. Use general date/time phrases such as MONDAY MORNING instead of specific date/times.
 - (2) AT followed by the time of observation and the current stage/flow.
 - (3) If flood category information is available, one or both of the following as applicable: description of category of current flooding, if flooding is already occurring, and description of the category of expected flooding (this information may be omitted for cancellations and expirations).
 - (4) Flood stage/flow at the forecast point (other stages such as caution stage may also be listed in separate bullets).
 - (5) Forecast information - e.g., time when river/stream reached, will reach, or fell below flood stage/flow; forecast crest/peak flow and time/day when expected; time when river/stream will fall below flood stage/flow; and other relevant forecast information.
 - (6) (Optional) Description of the known impacts of flooding at given stages (or flows) within the expected range of forecast values.

Observed and forecast data in tabular format may be presented at the end of each segment, or at the end of the product after the last segment.

7.3.5 Format. The generic format is shown below in Figure 9:

```
WGA1A2ii cccc ddhhmm (BBB)
FLSxxx
```

```
FLOOD STATEMENT
NATIONAL WEATHER SERVICE <city, state>
hhmm am/pm time_zone day mon dd yyyy
```

The following overview headline/synopsis section within the next brackets is optional:

```
...THE FLOOD WARNING CONTINUES <(optional) UNTIL <time/day phrase> 1> FOR
THE FOLLOWING <RIVER(S) or STREAM(S)> IN <geographic area>...
```

```
<river/stream> <proximity term> <location> (optional:) AFFECTING
<county #1>...<county #2> AND <county #n> <COUNTY or COUNTIES>
<river/stream> <proximity term> <location> (optional:) AFFECTING
<county #1>...<county #2> AND <county #n> <COUNTY or COUNTIES>
```

.

```
<river/stream> <proximity term> <location> (optional:) AFFECTING
<county #1>...<county #2> AND <county #n> <COUNTY or COUNTIES>
```

```
(optional:) AFFECTING THE FOLLOWING COUNTIES IN <state>...<county #1>...
<county #2> AND <county #n>
```

and/or

```
...THE FLOOD WARNING <IS CANCELLED or HAS EXPIRED> FOR THE FOLLOWING
<RIVER(S) or STREAM(S)> IN <geographic area>...
```

```
<river/stream> <proximity term> <location> (optional:) AFFECTING
<county #1>...<county #2> AND <county #n> <COUNTY or COUNTIES>
<river/stream> <proximity term> <location> (optional:) AFFECTING
<county #1>...<county #2> AND <county #n> <COUNTY or COUNTIES>
```

.

```
<river/stream> <proximity term> <location> (optional:) AFFECTING
<county #1>...<county #2> AND <county #n> <COUNTY or COUNTIES>
```

```
(optional:) AFFECTING THE FOLLOWING COUNTIES IN <state>...<county #1>...
<county #2> AND <county #n>
```

```
.<General synopsis>
```

```
(optional:) <call-to-action>
```

```
ADDITIONAL INFORMATION IS AVAILABLE AT <Web site URL>
```

```
(optional:) THE NEXT STATEMENT WILL BE ISSUED <time/day phrase>
```

(Include one or more of the following segments in the indicated order²):

```
stC001-005>015-ddhhmm-
/k.COR.cccc.FL.W3.####.yymmddThhnnZB-yymmddThhnnZE/
/s4.ic.yymmddThhnnZB.yymmddThhnnZC.yymmddThhnnZE.fr/
(optional) <<county #1>-<county #2>-<county #n>->
(optional) <INCLUDING <THE CITIES OF> location...location>
hhmm am/pm time_zone day mon dd yyyy
```

```
<Appropriate text for CAN, EXP, EXT, or CON segments (see formats below)>
```

```
$$
```

or / and (for cancellations):

```
stC001-005>015-ddhhmm-
/k.CAN.cccc.FL.W3.###.yymmddThhnnZB-yymmddThhnnZE/
/s4.ic.yymmddThhnnZB.yymmddThhnnZC.yymmddThhnnZE.fr/
(optional) <<county #1>-<county #2>-<county #n>->
(optional) <INCLUDING <THE CITIES OF> location...location>
hhmm am/pm time_zone day mon dd yyyy

<(optional)...Headline...>

THE FLOOD WARNING IS CANCELLED FOR
  <river/stream name> <proximity term- e.g., AT> <location>
* AT <time>5 <day> THE <STAGE / FLOW>6 WAS... <stage/flow>
* <other stage/flow type>7 <STAGE / FLOW> IS... <stage/flow> (optional)
* FLOOD <STAGE / FLOW> IS... <flood stage/flow>
* FELL BELOW FLOOD <STAGE / FLOW> AT <time> <day> (optional)
* FELL BELOW <other stage/flow type> AT <time> <day> (optional)
* FORECAST... <sentence or paragraph with forecast information>
* <description of impacts at given stage(s)/flow(s)> (optional)

&& (optional)
<optional tabular observed/forecast values for segment>

$$
```

(For each additional forecast point (if any), repeat the above in a separate segment)

or / and (for expirations):

```
stC001-005>015-ddhhmm-
/k.EXP.cccc.FL.W3.###.yymmddThhnnZB-yymmddThhnnZE/
/s4.ic.yymmddThhnnZB.yymmddThhnnZC.yymmddThhnnZE.fr/
(optional) <<county #1>-<county #2>-<county #n>->
(optional) <INCLUDING <THE CITIES OF> location...location>
hhmm am/pm time_zone day mon dd yyyy

<(optional)...Headline...>

THE FLOOD WARNING HAS EXPIRED FOR
  <river/stream name> <proximity term - e.g., AT> <location>
* AT <time>5 <day> THE LATEST <STAGE / FLOW>6 IS... <stage/flow>
* <other stage/flow type>7 <STAGE / FLOW> IS... <stage/flow> (optional)
* FLOOD <STAGE / FLOW> IS... <flood stage/flow>
* FELL BELOW FLOOD <STAGE / FLOW> AT <time> <day> (optional)
* FELL BELOW <other stage/flow type> AT <time> <day> (optional)
* FORECAST... <sentence or paragraph with forecast information>
* <description of impacts at given stage(s)/flow(s)> (optional)

&& (optional)
<optional tabular observed/forecast values for segment>

$$
```

(For each additional forecast point (if any), repeat the above in a separate segment)

or / and (for extensions in time)

```
stC001-005>015-ddhhmm-
/k.EXT.cccc.FL.W3.###.yymmddThhnnZB-yymmddThhnnZE/
/s3.ic.yymmddThhnnZB.yymmddThhnnZC.yymmddThhnnZE.fr/
(optional) <<county #1>-<county #2>-<county #n>->
(optional) <INCLUDING <THE CITIES OF> location...location>
hhmm am/pm time_zone day mon dd yyyy
```

...FLOOD WARNING EXTENDED UNTIL <time/day phrase> ¹ or FURTHER NOTICE...⁹

THE FLOOD WARNING CONTINUES FOR

- <river/stream name> <proximity term - e.g., AT> <location>
- * <FROM <time/day phrase> ¹ <TO <time/day phrase> ¹ or UNTIL FURTHER NOTICE>> or <UNTIL <time/day phrase> ¹ or FURTHER NOTICE>
- * AT <time> ⁴ <day> THE <STAGE / FLOW> WAS...<stage/flow> ⁵
- * <flood category> FLOODING IS OCCURRING AND <flood category> FLOODING IS FORECAST) ⁸
- * <other stage/flow type> ⁷ IS... <stage/flow> (optional)
- * FLOOD <STAGE / FLOW> IS... <flood stage/flow>
- * FORECAST...<One or more sentences with forecast information such as when flood stage will be reached, forecast crest/time, and time for fall below flood stage/flow. If "further notice" was used in second bullet, include best estimate of flood duration and briefly explain why duration cannot be specified.>
- * <description of impacts at given stage(s)/flow(s)> (optional)

&& (optional)

<optional tabular observed/forecast values for segment>

\$\$

(For each additional forecast point (if any), repeat the above in a separate segment)

or / and (when Event Ending Date/Time is being forecast for the first time)¹⁰:

stC001-005>015-ddhhmm-

/k.**EXT**.cccc.**FL.W**³.####.yymmddThhnnZ_B-yymmddThhnnZ_E/

/s⁴.ic.yymmddThhnnZ_B.yymmddThhnnZ_C.yymmddThhnnZ_E.fr/

(optional) <<county #1>-<county #2>-<county #n>->

(optional) <INCLUDING <THE CITIES OF> location...location>

hhmm am/pm time_zone day mon dd yyyy

...FLOOD WARNING NOW EXPECTED TO END <time/day phrase> ¹...

THE FLOOD WARNING CONTINUES FOR

- <river/stream name> <proximity term - e.g., AT> <location>
- * <FROM <time/day phrase> ¹ TO <time/day phrase> ¹> or <UNTIL <time/day phrase> ¹>
- * AT <time/> ⁵ <day> THE <STAGE / FLOW> ⁶ WAS...<stage/flow>
- * <flood category> FLOODING IS OCCURRING AND <flood category> FLOODING IS FORECAST) ⁸
- * <other stage/flow type> ⁷ IS... <stage/flow> (optional)
- * FLOOD <STAGE / FLOW> IS... <flood stage/flow>
- * FORECAST...<One or more sentences with forecast information such as when flood stage will be reached, forecast crest/time, and time for fall below flood stage/flow.>
- * <description of impacts at given stage(s)/flow(s)> (optional)

&& (optional)

<optional tabular observed/forecast values for segment>

\$\$

(For each additional forecast point (if any), repeat the above in a separate segment)

or / and (for continuations):

```

stC001-005>015-ddhmm-
/k.CON.cccc.FL.W3.####.yymmddThhnnZB-yymmddThhnnZE/
/s4.ic.yymmddThhnnZB.yymmddThhnnZC.yymmddThhnnZE.fr/
(optional) <<county #1>-<county #2>-<county #n>->
(optional) <INCLUDING <THE CITIES OF> location...location>
hhmm am/pm time_zone day mon dd yyyy

<(optional)...Headline...>

THE FLOOD WARNING CONTINUES FOR
  <river/stream name> <proximity term - e.g., AT> <location>
* <FROM <time/day phrase>1 <TO <time/day phrase>1 or UNTIL FURTHER
  NOTICE>> or <UNTIL <time/day phrase>1 or FURTHER NOTICE>
* AT <time/>5 <day> THE <STAGE / FLOW>6 WAS...<stage/flow>
* <flood category> FLOODING IS OCCURRING AND <flood category> FLOODING
  IS FORECAST8
* <other stage/flow type>7 IS... <stage/flow> (optional)
* FLOOD <STAGE / FLOW> IS... <flood stage/flow>
* FORECAST...<One or more sentences with forecast information such as when
  flood stage will be reached, forecast crest/time, and time for fall below
  flood stage/flow. If "further notice" was used in second bullet, include
  best estimate of flood duration and briefly explain why duration cannot
  be specified.>
* <description of impacts at given stage(s)/flow(s)> (optional)

&& (optional)
<optional tabular observed/forecast values for segment>

$$

```

(For each additional forecast point (if any), repeat the above in a separate segment)

```

&& TABULAR FORECAST INFORMATION (optional - for entire product)
<tabular observed/forecast values for entire product> (optional)

```

\$\$

```

<Name/Initials/Forecaster ID> (optional)

```

Note (1): The variable <time/day phrase> is a place holder for time/day phrases used for NWS long duration watches (e.g., MONDAY MORNING, TUESDAY AFTERNOON).

Note (2): New issuances (NEW) will be handled by the flood warning product (FLW - see section 6).

Note (3): The significance code for this product is "W" because the flood statement provides supplemental information on a previously issued (and still active) flood warning product (see NWSI 10-1703, section 2.2.5).

Note (4): "U" is entered for Flood Severity code "s" if the forecast flood category is unknown.

Note (5): Where <time> stands alone as a variable, the format is **hhmm am/pm time_zone**.

Note (6): "Stage/flow" means either stage and/or discharge values may be used.

Note (7): Examples of "other stage/flow type:" CAUTION STAGE, ALERT STAGE, or MONITOR STAGE.

Note (8): Include one or both observed/forecast category phrases if applicable and flood categories are available.

Note (9): Headline is optional, but recommended for significant extensions, with interpretation of "significant" determined on case by case basis.

Note (10): When an Event Ending Date/Time is being forecast for the first time for a long-duration flood for which previous FLS products used ten zeros, a special EXT segment is issued. After this special EXT segment is issued, the next product reverts to using a CON segment until the flood ends, unless the event ending time changes again, which would require the process to be repeated. The event tracking number remains unchanged during this process.

Figure 9. Generic format for flood statement following up a flood warning for forecast points.

7.4 Updates, Amendments, and Corrections. Provide updates by issuing a new product. Amendments are not applicable to this product. Follow standard NWS practices for corrections.

8. Areal Flood Warning (FLW). Areal flood warnings are issued for any high flow, overflow, or inundation in a defined area such as a portion of a state, a group of counties, or an area along a river or stream which threaten lives and property and are not appropriately covered by flash flood warnings or flood warnings for forecast points.

8.1 Mission Connection. Flood warnings help the NWS to meet its mission by providing advance notice of imminent or occurring flooding. This gives customers and partners time to initiate mitigation actions such as evacuation, removal of goods and belongings, alteration of reservoir releases, and activation of diversion works, thus helping to protect life and property.

8.2 Issuance Guidelines.

8.2.1 Creation Software. The WWA, WarnGen, or RiverPro application will be used.

8.2.2 Issuance Criteria. Areal flood warnings will be issued for the WFO's CWA when:

- a. Flood monitoring and forecasting tools and/or RFC guidance indicate flooding is likely over a wide area which cannot be quantified by a flood warning for forecast points; and/or
- b. Flooding is reported; and/or
- c. A geographic area is already covered by an existing flood warning, but now a new area needs also to be covered by a flood warning, regardless of whether or not the new area is adjacent to the already covered area. In such cases, a new flood warning is issued for the new area.

8.2.3 Issuance Time. Flood warnings are non-scheduled, event-driven products.

8.2.4 Valid Time. Areal flood warnings will be valid until the time when the flooding (requiring actions to protect lives and property) is expected to end, as indicated in the Event Ending Date/Time element in the P-VTEC string and the second bullet, or until the product is cancelled by a flood statement.

8.2.5 Product Expiration Time. The product expiration time (at the end of the UGC line) is generally set to be 6 to 24 hours after product issuance, depending on the hydrologic situation.

8.3 Technical Description.

8.3.1 UGC Type. County codes should be used (Zone for Alaska).

8.3.2 MND Broadcast Instruction Line. Use either: “BULLETIN - EAS ACTIVATION REQUESTED” or “BULLETIN - IMMEDIATE BROADCAST REQUESTED” depending on the urgency of the hydrologic situation, regional policies, and customer requirements.

8.3.3 MND Product Type Line. Use: “FLOOD WARNING.”

8.3.4 Content. The areal flood warning product uses a segmented, bullet format. An optional general overview/synopsis section may be provided at the top of the product. The required segmented warning information section begins with the first UGC line followed immediately by a VTEC string.

8.3.4.1 General Overview/Synopsis Section. This optional section contains at least one of the following items:

- a. General Overview Headline - One or more headlines summarizing the current flood situation, affected locations/areas, and the expected duration (if known). Each overview headline starts and ends with three periods “...” (ellipses).
- b. General Synopsis - a brief, non-technical description of the flood situation. A discussion of associated hydrometeorological factors may be provided. This synopsis is free format and may consist of several paragraphs, but the first line of the first paragraph will always be preceded by a period “.”.

8.3.4.2 Segmented Warning Information Section. Information in a product will be divided into one or more segments. Correction segments (COR) will appear first before any NEW segments. Note: there are no EXA, EXT, EXB, and CON segments in areal flood warnings (EXT and CON are handled in the flood statement (FLS) product).

Each segment of an areal flood warning will include the following:

- a. UGC line, primary and hydrologic VTEC strings, counties listing, cities listing (optional), and date/time stamp as shown in Figure 10. In the hydrologic VTEC string, enter zero for the flood severity code “s” to indicate areal product. Use zeros for the Flood Begin, Flood Crest, and Flood End Date/Time groups.
- b. Headline summarizing content of the segment.
- c. The action lead-in phrase THE NATIONAL WEATHER SERVICE IN <WFO location> HAS ISSUED A. After this lead-in, there will be three to four bullets delimited by asterisks (*) providing the following information (bullets may be longer than six lines):
 - (1) First bullet - FLOOD WARNING FOR, optionally followed by the phrase URBAN AREAS AND SMALL STREAMS IN or SMALL STREAMS IN, followed by a term describing the geographic area covered.

- (2) Second bullet - phrase integrating the event beginning (when appropriate) and event ending times (see Figure 10 for details).
- (3) Third bullet - Discussion of the warning basis.
- (4) Fourth bullet - (optional) Discussion of expected impacts.

d. Call-to-action statement.

8.3.5 Format. The generic format for areal flood warnings is shown below in Figure 10.

```

WGA1A2ii cccc ddhhmm (BBB)
FLWxxx

BULLETIN - EAS ACTIVATION (or IMMEDIATE BROADCAST) REQUESTED
FLOOD WARNING
NATIONAL WEATHER SERVICE <city, state>
hhmm am/pm time_zone day mon dd yyyy

<(optional) ...General overview headline...>

<(optional) .General synopsis of flood situation>

(Include one or more of the following segments in the indicated order1:)

    For corrections:
stC001-005>015-ddhhmm-
/k.COR.cccc.FL.W.####.yyymmddThhnnZB-yyymmddThhnnZE/
/02.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

<Appropriate headline and text for warning issuance (see format below)>

$$

    or / and (for new issuances):
stC001-005>015-ddhhmm-
/k.NEW.cccc.FL.W.####.yyymmddThhnnZB-yyymmddThhnnZE/
/02.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...FLOOD WARNING IN EFFECT <FROM <time/day phrase4> TO <time/day phrase>>
or <UNTIL <time/day phrase>>...

THE NATIONAL WEATHER SERVICE IN <WFO location> HAS ISSUED A

* FLOOD WARNING FOR <(optional) URBAN AREAS AND SMALL STREAMS IN or SMALL
  STREAMS IN> <geographic area> 3

* <FROM <time/day phrase4> TO <time/day phrase>> or <UNTIL <time/day phrase>>

* <warning basis>

* (optional) <expected impacts>

```

```
<call-to-action statement>
```

```
(optional) LAT...LON  nnnn nnnn
```

```
$$
```

```
<Name/Initials/Forecaster ID> (optional)
```

Note (1): For areal flood warnings, the segment types used are COR and NEW. Follow-up actions (i.e., CAN, EXP, EXT, and CON) will be provided in flood statements (FLS - see section 9).

Note (2): Zero (0) is entered for flood severity code “s” to indicate areal product.

Note (3): <geographic area> may be any type of defined area – one or more county names, a county name with a directional modifier (e.g., southern Cass County), a well-known geographic region (e.g., northern and central Maryland), or a river reach (e.g., the Pend Oreille River in Pend Oreille County in northeast Washington).

Note (4): The variable <time/day phrase> is a place holder for any of the standard headline time/day phrases used for NWS long duration warnings and advisories (e.g., 400 PM THIS AFTERNOON, 400 AM TUESDAY).

Figure 10. Generic format for areal flood warnings.

8.4 Updates, Amendments, and Corrections. Provide updates to a flood warning by issuing a flood statement per instructions in section 9.2.2. Amendments are not applicable to this product. Follow standard NWS practices for corrections.

9. Flood Statement - Follow-up to Areal Flood Warning (FLS). This type of flood statement contains supplemental information on previously issued areal flood warnings, such as updated observations and impact information.

9.1 Mission Connection. Flood statements help the NWS to meet its mission by updating information on threatening situations covered in previous flood warnings, thus helping to protect life and property.

9.2 Issuance Guidelines.

9.2.1 Creation Software. The WWA, WarnGen, or RiverPro application will be used.

9.2.2 Issuance Criteria. Flood statements will be issued to follow up areal flood warnings when:

- a. Information needs to be provided to update or supplement a previously issued areal flood warning, and/or
- b. Cancellation or expiration of all or part of a flood warning needs to be announced, and/or
- c. The effective time changes in a pre-existing warning (extension).

In cases where a flood warning needs to be extended in both area and time, a new flood warning is issued for the new area and the already existing flood warning is extended in time through issuance of a flood statement with an EXT (extension in time) segment.

9.2.3 Issuance Time. Flood statements are non-scheduled, event-driven products.

9.2.4 Valid Time. An areal flood warning being followed up in a flood statement will continue to be valid until the time when the flooding is expected to end, as indicated in the second bullet and the event ending date/time element in the P-VTEC line, or until the product is cancelled by a subsequent flood statement.

9.2.5 Product Expiration Time. For flood statements providing follow-up information on an areal flood warning (i.e., extension or continuation), the product expiration time is either the same as the product expiration time for the referenced areal flood warning, or an appropriate period of time until the next update needs to be issued (typically 6 to 24 hours - depends on the current situation and hydrologic characteristics of the area). For flood statements announcing expiration or cancellation of an areal flood warning, the product expiration time is not more than 1 hour after the warning expiration or cancellation time.

9.3 Technical Description.

9.3.1 UGC Type. County codes should be used (Zones in Alaska).

9.3.2 MND Broadcast Instruction Line. Not applicable to the flood statement.

9.3.3 MND Product Type Line. Use: "FLOOD STATEMENT."

9.3.4 Content. The flood statement following up an areal flood warning uses a segmented, bullet format (bullets not used for cancellations and expirations). The required segmented warning information section begins with the first UGC line followed immediately by a VTEC string.

9.3.4.1 General Overview/Synopsis Section. This optional section contains at least one of the following items:

- a. General Overview Headline - One or more headlines summarizing the current flood situation, affected locations/areas, and the expected duration (if known). Each overview headline starts and ends with three periods "..." (ellipses).
- b. General Synopsis - a brief, non-technical description of the flood situation. A discussion of associated hydrometeorological factors may be provided. This synopsis is free format and may consist of several paragraphs, but the first line of the first paragraph will always be preceded by a period ".".

9.3.4.2 Segmented Flood Statement Information Section. Information in a flood statement following up an areal flood warning will be divided into one or more segments. If multiple actions (e.g., cancellation plus continuation) apply in a given product, the segments should be further ordered by VTEC action code as follows:

- a. Corrections (COR)
- b. Cancellations (CAN)
- c. Expirations (EXP)
- d. Extensions in time (EXT)
- e. Continuations (CON)

Note - there will be no segments for new issuances (NEW) - these actions are only used under the FLW identifier. Also note - the COR action code will only be used to correct previously issued flood statements - corrections to flood warnings will be handled by flood warnings.

Extensions in time (EXT) and continuation (CON) segments will include:

- a. UGC line, primary and hydrologic VTEC strings, counties listing, cities listing (optional), and date/time stamp as shown in Figure 11. In the hydrologic VTEC line, enter zero for the flood severity code “s” to indicate areal product. Use zeros for the start, crest, and end date/time groups and OO (double capital “O”) for the flood record status “fr.”
- b. Headline summarizing content of the segment.
- c. The action lead-in phrase “THE NATIONAL WEATHER SERVICE IN <WFO location> HAS EXTENDED THE” (for EXT) or “THE FLOOD WARNING CONTINUES FOR” (for CON), followed by three to four bullets delimited by asterisks (*), with the following information (bullets may be longer than six lines if necessary):
 - (1) First bullet - FLOOD WARNING FOR, followed by the optional phrase URBAN AREAS AND SMALL STREAMS IN or SMALL STREAMS IN, followed by a term describing the geographic area covered. For CON segments, omit THE FLOOD WARNING FOR.
 - (2) Second bullet - FROM/TO or UNTIL information, obtained from the Event Beginning and Event Ending Date/Times used in the P-VTEC string. If the flooding has already begun, only the UNTIL information is provided. Use specific time/day phrases such as 400 AM Tuesday.
 - (3) Third bullet - Synopsis of the current hydrometeorological situation.
 - (4) Fourth bullet (optional) - description of expected impacts.
- d. Optional call-to-action statement.

Cancellation (CAN) and expiration (EXP) segments will include:

- a. UGC line, primary and hydrologic VTEC strings, counties listing, cities listing (optional), and date/time stamp as shown in Figure 11. In the hydrologic VTEC

string, enter zero for the flood severity code “s” to indicate areal product. Use zeros for the start, crest, and end date/time groups and OO (double capital “O”) for the flood record status “fr.”

- b. Headline summarizing content of the segment.
- c. Sentence announcing product cancellation or expiration (see Figure 11 for format).
- d. Brief post-event synopsis.

9.3.5 Format. The generic format for a flood statement following up an areal flood warning is shown below in Figure 11:

```

WGA1A2ii cccc ddhhmm (BBB)
FLSxxx

FLOOD STATEMENT
NATIONAL WEATHER SERVICE <city, state>
hhmm am/pm time_zone day mon dd yyyy

<(optional) ...General overview headline...>

<(optional) .General synopsis of flood situation>

(Include one or more of the following segments in the indicated order:)

    For corrections:
stC001-005>015-ddhhmm-
/k.COR.cccc.FL.W1.####.yyymmddThhnnZB-yyymmddThhnnZE/
/02.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

<Appropriate headline and text for CAN, EXP, or CON segments (see formats
below)>

$$

    or / and (for cancellations):
stC001-005>015-ddhhmm-
/k.CAN.cccc.FL.W1.####.yyymmddThhnnZB-yyymmddThhnnZE/
/02.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...FLOOD WARNING IS CANCELLED...

THE FLOOD WARNING IS CANCELLED FOR <(optional) URBAN AREAS AND SMALL
STREAMS IN or SMALL STREAMS IN> <geographic area3> <Brief post-event
synopsis>

(optional) LAT...LON  nnnn nnnn

$$

```

or / and (for expirations):

```
stC001-005>015-ddhhmm-
/k.EXP.cccc.FL.W1.####.yyymmddThhnnZB-yyymmddThhnnZE/
/02.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy
```

...FLOOD WARNING IS NO LONGER IN EFFECT...

THE FLOOD WARNING HAS EXPIRED FOR <(optional) URBAN AREAS AND SMALL STREAMS IN or SMALL STREAMS IN> <geographic area³>. <Brief post-event synopsis>

(optional) LAT...LON nnnn nnnn

\$\$

or / and (for extensions in time):

```
stC001-005>015-ddhhmm-
/k.EXT.cccc.FL.W1.####.yyymmddThhnnZB-yyymmddThhnnZE/
/02.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy
```

...FLOOD WARNING EXTENDED <FROM <time/day phrase⁴> TO <time/day phrase>>
or <UNTIL <time/day phrase>>...

THE NATIONAL WEATHER SERVICE IN <WFO location> HAS EXTENDED THE

* FLOOD WARNING FOR <(optional) URBAN AREAS AND SMALL STREAMS IN or SMALL STREAMS IN> <geographic area³>

* <FROM <time/day phrase⁴> TO <time/day phrase>> or <UNTIL <time/day phrase>>

* <warning basis>

* (optional) <expected impacts>

call-to-action statement>

(optional) LAT...LON nnnn nnnn

\$\$

or / and (for continuations):

```
stC001-005>015-ddhhmm-
/k.CON.cccc.FL.W1.####.yyymmddThhnnZB-yyymmddThhnnZE/
/02.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy
```

...FLOOD WARNING REMAINS IN EFFECT <FROM <time/day phrase⁴> TO <time/day phrase>> or <UNTIL <time/day phrase>>...

THE FLOOD WARNING CONTINUES FOR

* <(optional) URBAN AREAS AND SMALL STREAMS IN or SMALL STREAMS IN> <geographic area³>

* <FROM <time/day phrase⁴> TO <time/day phrase>> or <UNTIL <time/day phrase>>

```
* <current hydrometeorological situation>
* (optional) <expected impacts>
<call-to-action statement>
(optional) LAT...LON  nnnn nnnn
$$
```

```
<Name/Initials/Forecaster ID> (optional)
-----
```

Note (1): The significance code for this product is “W” because the flood statement provides supplemental information on a previously issued (and still active) flood warning product (see NWSI 10-1703, section 2.2.5).

Note (2): Zero (0) is entered for flood severity code “s” to indicate areal product.

Note (3): <geographic area> may be any type of defined area – one or more county names, a county name with a directional modifier (e.g., southern Cass County), a well-known geographic region (e.g., northern and central Maryland), or a river reach (e.g., the Pend Oreille River in Pend Oreille County in northeast Washington).

Note (4): The variable <time/day phrase> is a place holder for any of the standard headline time/day phrases used for NWS long duration warnings and advisories (e.g., 400 PM THIS AFTERNOON, 400 AM TUESDAY).

Figure 11. Generic format for flood statement following up an areal flood warning.

9.4 Updates, Amendments, and Corrections. Provide updates by issuing a new product. Amendments are not applicable to this product. Follow standard NWS practices for corrections.

10. Flood Statement - Advisories (FLS). Advisories issued under the flood statement identifier provide information on elevated river/stream flows or ponding of water in urban or other areas, when such events warrant notification of the public in a product less urgent than a warning.

10.1 Mission Connection. This product helps the NWS to meet its mission by providing notification on unusual hydrologic activity, thus helping to protect life and property.

10.2 Issuance Guidelines.

10.2.1 Creation Software. Advisories issued under the flood statement identifier will be generated with the WWA, WarnGen, or RiverPro application.

10.2.2 Issuance Criteria. Issue when elevated stream flow or ponding of water occurs which warrants public notification.

10.2.3 Issuance Time. Advisories issued under the flood statement identifier are non-scheduled, event-driven products.

10.2.4 Valid Time. This product will be valid until the time when the hydrologic conditions of concern are expected to end, as indicated in the headline, or until the product is cancelled or updated by another flood advisory.

10.2.5 Product Expiration Time. The product expiration time (at the end of the UGC line) is the same as the valid time in the headline and is generally set to be 6 to 24 hours after product issuance, depending on the hydrologic situation and characteristics of the area of concern. When announcing expiration or cancellation of an advisory, the product expiration time is not more than 1 hour after the warning expiration or cancellation time.

10.3 Technical Description.

10.3.1 UGC Type. County codes should be used (Zone for AK, Guam, and American Samoa).

10.3.2 MND Broadcast Instruction Line. Not applicable to this product.

10.3.3 MND Product Type Line. Use: "FLOOD STATEMENT."

10.3.4 Content. Advisories issued under the flood statement identifier use a segmented, bullet format (with the exception of cancellations/expiration). An optional general overview/synopsis section may be provided at the top of the product. The required segmented warning information section begins with the first UGC line followed immediately by a VTEC string.

10.3.4.1 General Overview/Synopsis Section. This optional section contains at least one of the following:

- a. General Overview Headline - One or more headlines summarizing the current elevated streamflow situation, affected locations/areas, and the expected duration (if known). Each overview headline starts and ends with three periods "...". (ellipses).
- b. General Synopsis - a brief, non-technical description of the elevated streamflow situation. A discussion of the associated hydrometeorological factors may be provided. This synopsis is free format and may consist of several paragraphs, but the first line of the first paragraph will always be preceded by a period ".".

10.3.4.2 Segmented Advisory Information Section. Information in an advisory issued under the flood statement identifier will be divided into one or more segments. If multiple segments are needed, they will be provided in the following order:

- a. Corrections (COR)
- b. Cancellations (CAN)
- c. Expirations (EXP)
- d. New issuances (NEW)
- e. Expansions in area (EXA)
- f. Extensions in time (EXT)
- g. Extensions in both time and area (EXB)
- h. Continuations (CON)

New (NEW), expansion in area (EXA), extension in time (EXT), extension in both time and area (EXB), and continuation (CON) segments will include:

- a. UGC line, primary and hydrologic VTEC strings, counties listing, cities listing (optional), and date/time stamp as shown in Figure 12. In the hydrologic VTEC string, enter zero for the flood severity code “s” to indicate an areal product. The available entries for immediate cause code “ic” are ER (excessive rainfall), SM (snowmelt), RS (rain and snowmelt), IJ (ice jam), and IC (Rain and/or snowmelt and/or ice jam). Use zeros for the start, crest, and end date/time groups and OO (double capital “O”) for the flood record status “fr.”
- b. Headline summarizing content of the segment.
- c. An action lead-in phrase such as “THE NATIONAL WEATHER SERVICE IN <WFO location> HAS ISSUED A” (for NEW, EXA, EXT, EXB); or “THE <type of advisory> FOR <hydrologic condition>” CONTINUES FOR” (for CON); followed by three to four bullets delimited by asterisks (*) providing the following information (bullets may be longer than six lines):
 - (1) First bullet - <type of advisory>; followed by the optional phrase “FOR <hydrologic condition>;” followed by a preposition - i.e., FOR, OF, AT, IN, or ON, followed by the stream or geographic area covered. Types of advisories include: FLOOD ADVISORY, URBAN AND SMALL STREAM FLOOD ADVISORY, ARROYO AND SMALL STREAM FLOOD ADVISORY, SMALL STREAM FLOOD ADVISORY, MINOR FLOOD ADVISORY, and HYDROLOGIC ADVISORY. Examples of hydrologic conditions include ICE JAM FLOODING, RAPID RISES, or MINOR FLOODING IN POOR DRAINAGE AREAS. For CON segments, only include the stream or geographic area covered.
 - (2) Second bullet - phrase integrating the event beginning (when appropriate) and event ending times (see Figure 12 for details).
 - (3) Third bullet - basis for the advisory
 - (4) Fourth bullet (optional) - expected impacts of the elevated flow situation.
- d. A call-to-action statement (may be omitted for cancellations and expirations).

Cancellation (CAN) and expiration (EXP) segments will include:

- a. UGC line, primary and hydrologic VTEC strings, counties listing, cities listing (optional), and date/time stamp as shown in Figure 12. In the hydrologic VTEC string, enter zero for the flood severity code “s” to indicate areal product. Use zeros for the start, crest, and end date/time groups and OO (double capital “O”) for the flood record status “fr.”

- b. Headline summarizing content of the segment.
- c. Sentence announcing cancellation or expiration of the product.
- d. Brief post-event synopsis.

10.3.5 Format. The generic format for an advisory issued under the flood statement identifier is shown below in Figure 12:

```

WGA1A2ii cccc ddhhmm (BBB)
FLSxxx

FLOOD STATEMENT
NATIONAL WEATHER SERVICE <city, state>
hhmm am/pm time_zone day mon dd yyyy

<(optional) ...General overview headline...>

<(optional) .General synopsis of elevated flow situation>

(Include one or more of the following segments in the indicated order:)

    For corrections:
stC001-005>015-ddhhmm-
/k.COR.cccc.FL.Y.####.yyymmddThhnnZB-yyymmddThhnnZE/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

<Appropriate headline and text for cancellation, new issuance, expansion,
extension, expansion/extension, or continuation of advisory (see formats
below)>

$$

    or / and (for cancellations):
stC001-005>015-ddhhmm-
/k.CAN.cccc.FL.Y.####.yyymmddThhnnZB-yyymmddThhnnZE/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...<type of advisory> 1 IS CANCELLED...

THE <type of advisory> 1 <(optional) FOR <hydrologic condition> 2 > <FOR, OF,
AT, IN, or ON> <stream(s) or geographic area> HAS BEEN CANCELLED. <Brief
post-event synopsis>

$$

    or / and (for expirations):
stC001-005>015-ddhhmm-
/k.EXP.cccc.FL.Y.####.yyymmddThhnnZB-yyymmddThhnnZE/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

```

...<type of advisory> ¹ IS NO LONGER IN EFFECT...

THE <type of advisory> ¹ <(optional) FOR <hydrologic condition> ²> <FOR, OF, AT, IN, or ON> <stream(s) or geographic area> HAS BEEN ALLOWED TO EXPIRE.
<Brief post-event synopsis>

\$\$

or / and (for new issuances):

stC001-005>015-ddhhmm-
/k.**NEW**.cccc.**FL.Y**.####.yyymmddThhnnZ_B-yyymmddThhnnZ_E/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...<type of advisory> ¹ IN EFFECT <FROM <time/day phrase ⁴> TO <time/day phrase>> or <UNTIL <time/day phrase>>...

THE NATIONAL WEATHER SERVICE IN <WFO location> HAS ISSUED <A or AN>

* <type of advisory> ¹ <(optional) FOR <hydrologic condition> ²> <FOR, OF, AT, IN, or ON> <stream(s) or geographic area>

* <FROM <time/day phrase> ³ TO <time/day phrase>> or <UNTIL <time/day phrase>>

* <basis for advisory>

* (optional) <expected impacts>

<call-to-action statement>

(optional) LAT...LON nnnn nnnn

\$\$

or / and (for expansions in area):

stC001-005>015-ddhhmm-
/k.**EXA**.cccc.**FL.Y**.####.yyymmddThhnnZ_B-yyymmddThhnnZ_E/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...<type of advisory> ¹ IN EFFECT <FROM <time/day phrase ⁴> TO <time/day phrase>> or <UNTIL <time/day phrase>>...

THE NATIONAL WEATHER SERVICE IN <WFO location> HAS EXPANDED THE

* <type of advisory> ¹ <(optional) FOR <hydrologic condition> ²> <FOR, OF, AT, IN, or ON> <stream or geographic area> TO INCLUDE <stream(s) or geographic area>

* <FROM <time/day phrase> ³ TO <time/day phrase>> or <UNTIL <time/day phrase>>

* <basis for advisory>

* (optional) <expected impacts>

<call-to-action statement>

(optional) LAT...LON nnnn nnnn

\$\$

or / and (for extensions in time):

stC001-005>015-ddhhmm-
 /k.**EXT**.cccc.**FL.Y**.####.yyymmddThhnnZ_B-yyymmddThhnnZ_E/
 /0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
 <county #1>-<county #2>-<county #n>-
 INCLUDING <THE CITIES OF> location...location
 hhmm am/pm time_zone day mon dd yyyy

...<type of advisory> ¹ EXTENDED <FROM <time/day phrase ⁴> TO
 <time/day phrase>> or <UNTIL <time/day phrase>>...

THE NATIONAL WEATHER SERVICE IN <WFO location> HAS EXTENDED THE

* <type of advisory> ¹ <(optional) FOR <hydrologic condition> ²> <FOR, OF,
 AT, IN, or ON> <stream(s) or geographic area>

* <FROM <time/day phrase> ³ TO <time/day phrase>> or <UNTIL <time/day phrase>>

* <basis for advisory>

* (optional) <expected impacts>

<call-to-action statement>

(optional) LAT...LON nnnn nnnn

\$\$

or / and (for both expansions in area and extensions in time) ⁴:

stC001-005>015-ddhhmm-
 /k.**EXB**.cccc.**FL.Y**.####.yyymmddThhnnZ_B-yyymmddThhnnZ_E/
 /0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
 <county #1>-<county #2>-<county #n>-
 INCLUDING <THE CITIES OF> location...location
 hhmm am/pm time_zone day mon dd yyyy

...<type of advisory> ¹ IN EFFECT <FROM <time/day phrase ⁴> TO <time/day
 phrase>> or <UNTIL <time/day phrase>>...

THE NATIONAL WEATHER SERVICE IN <WFO location> HAS EXPANDED THE

* <type of advisory> ¹ <(optional) FOR <hydrologic condition> ²> <FOR, OF,
 AT, IN, or ON> <stream or geographic area> TO INCLUDE <stream(s) or
 geographic area>

* <FROM <time/day phrase> ³ TO <time/day phrase>> or <UNTIL <time/day phrase>>

* <basis for advisory>

* (optional) <expected impacts>

<call-to-action statement>

(optional) LAT...LON nnnn nnnn

\$\$

```

or / and (for continuations):
stC001-005>015-ddhhmm-
/k.CON.cccc.FL.Y.####.yyymmddThhnnZB-yyymmddThhnnZE/
/0.ic.000000T0000Z.000000T0000Z.000000T0000Z.OO/
<county #1>-<county #2>-<county #n>-
INCLUDING <THE CITIES OF> location...location
hhmm am/pm time_zone day mon dd yyyy

...<type of advisory> 1 REMAINS IN EFFECT <FROM <time/day phrase 4> TO
<time/day phrase>> or <UNTIL <time/day phrase>>...

THE <type of advisory> 1 <(optional) FOR <hydrologic condition> 2>
CONTINUES FOR

* <stream(s) or geographic area>
* UNTIL <time/day phrase> 3
* <basis for advisory>
* (optional) <expected impacts>

<call-to-action statement>

(optional) LAT...LON  nnnn nnnn

$$

<(optional) Name/Initials/Forecaster ID>
-----

Note (1) - types of advisories include: FLOOD ADVISORY, URBAN AND SMALL STREAM FLOOD
ADVISORY, ARROYO AND SMALL STREAM FLOOD ADVISORY, SMALL STREAM FLOOD
ADVISORY, MINOR FLOOD ADVISORY, and HYDROLOGIC ADVISORY.
Note (2) - examples of hydrologic conditions that could be used here include: ICE JAM FLOODING, RAPID
RISES, and MINOR FLOODING IN POOR DRAINAGE AREAS.
Note (3): The variable <time/day phrase> is a place holder for any of the standard headline time/day phrases used
for NWS long duration warnings and advisories (e.g., 400 PM THIS AFTERNOON, 400 AM TUESDAY).
Note (4): When an EXB segment is used, it would be handling the new area being added to the advisory, and an
EXT segment would be extending the advisory for the previously covered area.

```

Figure 12. Generic format for advisory issued under the flood statement identifier.

10.4 Updates, Amendments, and Corrections. Provide updates by issuing a new product. Amendments are not applicable to this product. Follow standard NWS practices for corrections.

11. Hydrologic Statement (RVS). The hydrologic statement provides hydrologic forecasts and related information in a format which meets customer and partner needs.

11.1 Mission Connection. The hydrologic statement helps the NWS meet its mission by providing hydrologic information in a format which can be easily read by customers and partners who do not have sophisticated decoding capabilities.

11.2 Issuance Guidelines.

11.2.1 Creation Software. Use RiverPro or other applications as appropriate.

11.2.2 Issuance Criteria. Issue this product when river forecasts have been prepared for the hydrologic service area, or to disseminate information that warrants issuance to notify of significant hydrologic conditions (e.g., hydrologic observations show rapid rise but flow not expected to reach flood stage).

11.2.3 Issuance Time. Issue on schedules coordinated with customers and partners.

11.2.4 Valid Time. This product will be valid from the time of release until the next update unless otherwise specified.

11.3 Technical Description.

11.3.1 UGC Type. County codes should be used (Zone for Alaska).

11.3.2 MND Broadcast Instruction Line. Not applicable to the hydrologic statement.

11.3.3 MND Product Type Line. Use: "HYDROLOGIC STATEMENT."

11.3.4 Content. The hydrologic statement uses a non-segmented, non-bulleted format. Hydrologic statements typically include a headline identifying the area affected and narrative information and/or observations/forecasts of river stages, lake levels, and ice conditions.

11.3.5 Format. The generic format for hydrologic statements is shown in Figure 13 below:

```
FGA1A2ii cccc ddhhmm (BBB)
RVSxxx
stC001-005>015-ddhhmm-

HYDROLOGIC STATEMENT
NATIONAL WEATHER SERVICE <WFO location>
hhmm am/pm time_zone mon dd yyyy

(optional) ...<Headline statement>...

(optional) <Narrative information>

&& (optional - if narrative info needs to be separated from tabular info)

(optional) <tabular observed and/or forecast information>

$$

<(optional) forecaster name/number>
```

Figure 13. Generic format for a Hydrologic Statement (RVS).

11.4 Updates, Amendments, and Corrections. Provide updates by issuing a new product. Amendments are not applicable to this product. Follow standard NWS practices for corrections.

12. Hydrologic Summary (RVA). The hydrologic summary provides hydrologic observations and related information in a format which meets the needs of customers and partners. This

product may be used to disseminate information not included in the Hydrologic Statement or River and Lake Forecast Product.

12.1 Mission Connection. The hydrologic summary helps the NWS meet its mission by providing hydrologic information which can be used by customers and partners to assess antecedent conditions or the current status of rivers and reservoirs.

12.2 Issuance Guidelines.

12.2.1 Creation Software. Use RiverPro or other applications as appropriate.

12.2.2 Issuance Criteria. Issue hydrologic statements after data on rivers and reservoirs in the hydrologic service area have been collected and quality controlled.

12.2.3 Issuance Time. Issue on schedules coordinated with local customers and partners.

12.2.4 Valid Time. This product will be valid from the time of release until the next update unless otherwise specified.

12.3 Technical Description.

12.3.1 UGC Type. County codes should be used (Zone for Alaska).

12.3.2 MND Broadcast Instruction Line. Not applicable to the hydrologic summary.

12.3.3 MND Product Type Line. Use: "HYDROLOGIC SUMMARY."

12.3.4 Content. The hydrologic summary uses a non-segmented, non-bulleted format. Hydrologic summaries contain an optional headline and provide information such as observations of river stages, lake levels, precipitation data, or ice conditions.

12.3.5 Format. The generic format for hydrologic summaries is shown in Figure 14 below:

```

SRA1A2ii cccc ddhhmm (BBB)
RVAXxx
stC001-005>015-ddhhmm-

HYDROLOGIC SUMMARY
NATIONAL WEATHER SERVICE <WFO location>
hhmm am/pm time_zone mon dd yyyy

<(optional) ...headline...>

<Tabular data>

$$

<(optional) forecaster name/number>

```

Figure 14. Generic format for Hydrologic Summaries (RVA).

12.4 Updates, Amendments, and Corrections. Provide updates by issuing a new product. Amendments are not applicable to this product. Follow standard NWS practices for corrections.

13. River and Lake Forecast Product (RVD). The river and lake forecast product provides hydrologic forecasts and observations in Standard Hydrometeorological Exchange Format (SHEF).

13.1 Mission Connection. The river and lake forecast product helps the NWS meet its mission by providing hydrologic forecasts and observations in a standardized format which allows ingest into a variety of computer applications operated by customers and partners.

13.2 Issuance Guidelines.

13.2.1 Creation Software. Generate the river and lake forecast product using RiverPro in the WHFS or other applications as appropriate.

13.2.2 Issuance Criteria. This product will be issued daily for daily forecast points. More frequent updates may be provided if needed.

13.2.3 Issuance Time. This product will be issued routinely on a schedule which meets partner and customer needs. The product can be issued as frequently as once per day, with updates as needed, or as infrequently as once per week.

13.2.4 Valid Time. This product will be valid from the time of release until updated.

13.3 Technical Description.

13.3.1 UGC Type. County codes should be used (Zone for Alaska).

13.3.2 MND Broadcast Instruction Line. Not applicable to the river and lake forecast product.

13.3.3 MND Product Type Line. Use: "DAILY RIVER AND LAKE SUMMARY."

13.3.4 Content. River and lake forecast products will include a table containing observed and forecast data in SHEF ".b" format, vertically aligned to maximize readability. Headers defining the field in each column will be provided in the following order:

- a. NWS Location Identifier;
- b. Station name;
- c. Flood stage (if applicable);
- d. Current stage or lake elevation;
- e. 24 hour change;

- f. 1 day forecast; and
- g. Additional data, such as 6 hourly or daily forecast information out to 7 days (optional).

Rows of data should be grouped by river basin, with the name of the river basin provided above each grouping. When multiple forecast points exist on the same river, the river name should only be provided once. An optional narrative may be included in the product.

13.3.5 Format. The generic format is shown in Figure 15 below:

```
FGA1A2ii cccc ddhhmm (BBB)
RVDxxx
stC001-005>015-ddhhmm-

DAILY RIVER AND LAKE SUMMARY
NATIONAL WEATHER SERVICE <WFO location>
hhmm am/pm time_zone mon dd yyyy

<SHEF-encoded hydrologic forecasts>

$$

<(optional) forecaster name/number>
```

Figure 15. Generic format for Daily River and Lake Summaries (RVD).

13.4 Updates, Amendments, and Corrections. Provide updates by issuing a new product. Amendments are not applicable to this product. Follow standard NWS practices for corrections.

14. Hydrometeorological Data Products (RRx). These products contain precipitation and other hydrometeorological data from various networks, including the NWS Cooperative Network, flood warning systems, ASOS, and networks operated by partnering agencies.

14.1 Mission Connection. These products help the NWS meet its mission by contributing hydrometeorological observations to a national information database which can be used by other government agencies, the private sector, and the public to enhance the national economy.

14.2 Issuance Guidelines.

14.2.1 Creation Software. Create hydrometeorological data products using the WHFS or other applications as appropriate.

14.2.2 Issuance Criteria. Issue this product to disseminate hydrometeorological data.

14.2.3 Issuance Time. Issue hydrometeorological data products according to schedules developed with local customers and partners.

14.2.4 Valid Time. Not applicable - this product is a report of observed data.

14.3 Technical Description.

14.3.1 UGC Type. County codes should be used.

14.3.2 MND Broadcast Instruction Line. Not applicable.

14.3.3 MND Product Type Line. Use the MND product type lines shown in table 1.

14.3.4 Content. Hydrometeorological data products will be formatted in SHEF and:

- a. Contain a WMO header;
- b. Contain an MND header block as shown in the generic format below, with the product name matching one of the MND product type lines listed in Table 1 (if produced at a WFO); and
- c. Include a headline statement introducing the product (if produced at a WFO).

WMO Heading	MND Product Type Line	Content
SRA ₁ A ₂ ii cccc ddhhmm (BBB) RR1xxx	HYDROMETEOROLOGICAL DATA REPORT #1	Local hydromet data, including observations from partner systems
SRA ₁ A ₂ ii cccc ddhhmm (BBB) RR2xxx	HYDROMETEOROLOGICAL DATA REPORT #2	Precipitation data
SRA ₁ A ₂ ii cccc ddhhmm (BBB) RR3xxx	HYDROMETEOROLOGICAL DATA REPORT #3	Data from cooperative observers
SRA ₁ A ₂ ii cccc ddhhmm (BBB) RR4xxx	HYDROMETEOROLOGICAL DATA REPORT #4	Cooperative observer special reports
SRA ₁ A ₂ ii cccc ddhhmm (BBB) RR5xxx	HYDROMETEOROLOGICAL DATA REPORT #5	Hourly hydrometeorological data (e.g., from flood warning system)
SRA ₁ A ₂ ii cccc ddhhmm (BBB) RR6xxx	HYDROMETEOROLOGICAL DATA REPORT #6	ASOS precip report, produced on exceedence of threshold rates
SRA ₁ A ₂ ii cccc ddhhmm (BBB) RR7xxx	HYDROMETEOROLOGICAL DATA REPORT #7	ASOS hourly precipitation report
SRA ₁ A ₂ ii cccc ddhhmm (BBB) RR8xxx	HYDROMETEOROLOGICAL DATA REPORT #8	Data provided by water resources agencies
SRA ₁ A ₂ ii cccc ddhhmm (BBB) RR9xxx	HYDROMETEOROLOGICAL DATA REPORT #9	Local hydrometeorological data
SRA ₁ A ₂ ii cccc ddhhmm (BBB) RRMxxx	MISCELLANEOUS HYDROLOGIC DATA REPORT	Local hydrometeorological data, SHEF or tabular format
SRA ₁ A ₂ ii cccc ddhhmm (BBB) RRAxxx	AUTOMATED DATA REPORT	Automated river and rain gage data

Table 1. Header instructions for hydrometeorological data products.

14.3.5 Format. The generic format is shown in Figure 16 below:

```
SRA1A2ii cccc ddhhmm (BBB)
RRxxxx
stC001-005>015-ddhhmm- 1

<MND Product Type Line> 1
NATIONAL WEATHER SERVICE <WFO location> 1
hhmm am/pm time_zone mon dd yyyy 1

<...Headline statement...> 1

<Data summary, SHEF or tabular format>

$$ 1
-----
```

Note (1): these items are only required if the product is produced by a WFO. They are optional if product is generated by other sources outside a WFO.

Figure 16. Generic format for Hydrometeorological Data Products (RRx).

14.4 Updates, Amendments, and Corrections. Provide updates by issuing a new product. Amendments are not applicable to this product. Follow standard NWS practices for corrections.

15. Hydrometeorological Data Summary Products (HYx). These products provide daily, weekly, and monthly summaries of hydrometeorological observations.

15.1 Mission Connection. These products help the NWS meet its mission by providing quality-controlled observations to a national information database which can be used by other government agencies, the private sector, and the public to enhance the national economy.

15.2 Issuance Guidelines.

15.2.1 Creation Software. Create hydrometeorological data summary products using the WHFS or other applications as appropriate.

15.2.2 Issuance Criteria. Issue this product when daily, weekly, or monthly data has been compiled and reviewed.

15.2.3 Issuance Time. Issue daily, weekly, or monthly hydrometeorological summary products according to schedules developed with local customers and partners.

15.2.4 Valid Time. Not applicable - this product is a report of observed data.

15.3 Technical Description.

15.3.1 UGC Type. County codes should be used (Zone for Alaska).

15.3.2 MND Broadcast Instruction Line. Not applicable.

15.3.3 MND Product Type Line. Use the MND product type lines shown in table 2.

15.3.4 Content. Hydrometeorological data summary products will include a:

- a. WMO header;
- b. MND header block as shown in the generic format below, with the product name matching one of the MND product type lines listed in Table 2; and
- c. (optional) Headline statement introducing the product.

WMO Header	MND Product Type Line	Content
SXA ₁ A ₂ ii cccc ddhhmm (BBB) HYDxxx	DAILY HYDROMETEOROLOGICAL DATA SUMMARY	Quality controlled daily ¹ hydrometeorological data
CWA ₁ A ₂ ii cccc ddhhmm (BBB) HYWxxx	WEEKLY HYDROMETEOROLOGICAL DATA SUMMARY	Quality controlled weekly hydrometeorological data
CSA ₁ A ₂ ii cccc ddhhmm (BBB) HYMxxx	MONTHLY HYDROMETEOROLOGICAL DATA SUMMARY	Quality controlled monthly hydrometeorological data
Note (1): product not limited to strictly daily issuance - e.g., may be issued every other day.		

Table 2. Header instructions for hydrometeorological data summary products.

15.3.5 Format. The generic format for hydrologic data products is shown in Figure 17 below.

Note: use the WMO headings shown in Table 2, i.e., TT=SX for daily products; TT=CW for weekly products; and TT=CS for monthly products.

```
TTA1A2ii cccc ddhhmm (BBB)
HYXxxx
stC001-005>015-ddhhmm-

<MND Product Type Line>
NATIONAL WEATHER SERVICE <WFO location>
hhmm am/pm time_zone mon dd yyyy

<(optional)...Headline statement...>

<Data summary, SHEF or tabular format>

$$
```

Figure 17. Generic format for Hydrometeorological Data Summary Products (HYx).

15.4 Updates, Amendments, and Corrections. Provide updates by issuing a new product. Amendments are not applicable to this product. Follow standard NWS practices for corrections.

16. Hydrometeorological Coordination Message (HCM). Hydrometeorological coordination messages are produced by WFOs to communicate any type of internal forecast/support-oriented information to supporting RFCs, other WFOs, and the National Centers for Environmental Prediction (NCEP). This product is not distributed over NWS-supported public

dissemination pathways or posted on the Internet, but may be made available through secured mechanisms to selected partners.

16.1 Mission Connection. The hydrometeorological coordination message helps the NWS meet its mission by providing RFC, WFO, and NCEP forecasters with a mechanism for communicating sensitive information on potential hydrometeorological activity before it is released to the public in the form of forecasts and warnings.

16.2 Issuance Guidelines.

16.2.1 Creation Software. Use appropriate text editor on AWIPS.

16.2.2 Issuance Time. The HCM is a non-scheduled, event-driven product.

16.3 Technical Description.

16.3.1 MND Product Type Line. Use: "HYDROMETEOROLOGICAL COORDINATION MESSAGE."

16.3.2 Content. Topics discussed in this product may include (but are not limited to): contingency planning for future hydrometeorological events, QPF verification information, hydrologic forecast verification information, and problems with gage or radar-based data.

16.3.3 Format. The generic format is shown in Figure 18 below:

```

AGA1A2ii Kccc ddhhmm (BBB)
HCMxxx

HYDROMETEOROLOGICAL COORDINATION MESSAGE
NWS <WFO name> <WFO location>
Time am/pm time_zone day mon dd yyyy

<Headline introducing the information to be presented below>

<Discussion>

$$
    
```

Figure 18. Generic format for Hydrometeorological Coordination Message (HCM).

16.4 Updates, Amendments, and Corrections. Not applicable.

17. Advanced Hydrologic Prediction Service. The hydrologic forecast information and observed data contained in products described in the previous sections, as well as additional output from WFO hydrometeorological systems, can be incorporated into graphical products and a forecast information database and made available through mechanisms such as the Internet. These WFO Advanced Hydrologic Prediction Service (AHPS) products and information sets provided through the Internet will conform to current NWS, NOAA, and DOC policies.